AMATEUR RADIO

FEBRUARY 1951

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

FOR THE EXPERIMENTER & RADIO ENTHUSIAST

9D.

Registered at the G.P.O., Melbourne, for transmission by post as a periodical.

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0-10 Ma. Pullin Meters, 4 inch, new ..... each 30/-

New Meters—0-500 microamps. £1/2/6

New Meters—0-1 Ma. full scale £1/2/6

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English I.F.F. Units. Tube line-up: two VR135 (high freq. triodes), two VR78 (diodes), four VR65A, Eddystone Butterfly Condenser, 1 uF. 1,000 v.w. Block Condenser, Genemotor 11-12 v. input at 3.8 Amp., output 480 v. 40 Ma. Good assorted quantity of Resistors and Condensers, ideal for wrecking, condition as new ..... £2 each

6 feet lengths of ½ inch Co-ax Cable, 72 ohms, with Connectors both ends 3/-

Jumbo 4-Pin Valve Sockets for 211, etc. ..... each 7/6

VALVES, Tested, Out of Disposals Gear

5/- each—Bargain Price—CV6/7193, 6H6, 6SH7, 6B5, 59, 6A6.

7/6 each—VR65, EF36.

10/- each—2X2, 6C8G, 6G6, 6J7G, 6K7, 6U7G, 6X5, 807, 12A6, 12AH7, 12C8, 12SG7, 12J5, 879, 1625, 1629, 9003, 954, 956, HY615.

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10/- each—Specials (new)—837, 6C6, EBF2, EL3, EF50.

10/- each—Locktal type: 7G7, 7Y4, 7E6, 7A8, 7W7, 7N7, 7A4, 7F7, 1299, 1291, 1203A, 1201, 1LA6, 1LD5, 1LN5, 28D7, 35Y4.

12/6 each—(new) 45, 6B6, 6C4, 6L7.

15/- each—6SN7, 6SL7.

813, 60/- each. 832, 50/- each.

A large variety of 2 volt Battery Valves are also in stock.

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FEBRUARY - - 1951

Vol. 19. No. 2

PRINTERS:

"RICHMOND CHRONICLE,"
Shakespeare St., Richmond, E.1.
Telephone: JB 2419.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1, on or before the 8th of each month.

Subscription rate in Australia is 9/- per annum, in advance (post paid) and A10/6 in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms' Telephone is FJ 6897.

AMATEUR RADIO

Published by the Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
Melbourne, C.1

EDITORIAL

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SAFETY PRECAUTIONS

A B C. You have heard of these three letters since the days of your very early youth. Now that the years have rolled on, are these first three letters of the alphabet just a dim memory or are they foremost in your mind when pursuing your hobby? If the former be the case, let us bring them to the surface and help you keep them there.

Elementary electricity and magnetism teaches us that the speed of electric and light waves travel at the speed of approximately 186,000 miles per second and in addition it is known that our reflexes work at a somewhat slower speed, therefore, it is obvious that you cannot win in a battle of electricity versus human flesh.

It has been said that by keeping your hand in your pocket you safeguard your wealth, why not safeguard your health by doing the same, when making adjustments to your transmitter.

The following alphabet gives a few pertinent points to remember:—

A—Always
B—Be
C—Careful.
D—Don't forget to short circuit high voltage filter condensers. You may have an open or no bleeder resistor.
E—Everytime you make an adjustment to your equipment see that it is DEAD or you may be.
F—Forgetfulness does not pay. Fuses do.
G—Good design will ensure the personal safety of the operator and his friends.
H—High voltage—Heed it.
I—Interlock circuits are good commercial practice. Make it yours.
J—Just think a little longer before you act.
K—Keying circuits can be lethal. Are yours?
L—Look for the green safety lights on the rig.
M—Must you test the voltage of a rig with your body? Voltmeters are cheaper.
N—Never let your mind wander from what you are doing when adjusting the transmitter.
O—Oh! How many times have you said this because of your carelessness.
P—Proud flesh! An early demise by electrocution is nothing to be proud of.
Q—Quick results are achieved when making adjustments to live equipment with both hands.
R—Red is for danger. What warning devices have you on your equipment? Can those already in existence be improved? Let the Editor have some dope on them so that your fellow Hams may derive some benefit.
S—Study your circuit diagrams carefully. You may find them to be dangerous due to wrong connections.
T—Take time off for a second look before you throw the switch in.
U—You only live once.
V—Vulnerable.
W—We are all subject to this condition when caution is thrown to the wind.
X—Exit. Will your thoughtlessness accelerate yours?
Y—Why not play safe.
Z—ZAC. The game is not worth one of these unless everybody observes safety precautions.

—Federal Executive.

Make your motto: **"The ABC of Safety First is Always Be Careful."**

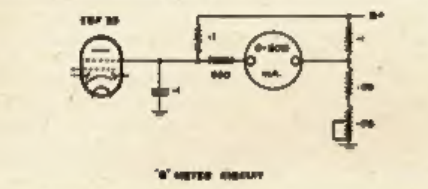
The Contents . . .

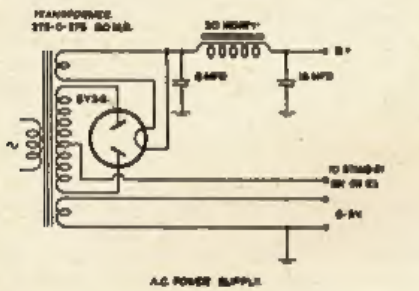
A Simple Ham-Band Super

BY W. R. JARDINE,* VK3PR

In "QST" for August, 1938, there was described a small three-tube superhet receiver using 6K8, 6K7 and 6C8, and operating from 6 volts for filament supply and from a 45 to 90 volt B battery. Not having any a.c. available, this hook-up appealed to the writer and the set was built up. The results were beyond expectations and the little set did yoeman service up to the start of the war.

At the cessation of hostilities it was found that the B batteries were flat (not to be wondered at) and it was decided to build something larger that would work from a vibrator unit and at the same time be suitable for operation from the a.c. mains when the long overdue a.c. arrived.





S Meter Circuit.

This circuit is suitable for any receiver using 6K7 or any similar tube in a.v.c. controlled i.f. stage.

A.C. Power Supply

Four-pin plug on power supply to four-pin socket on back of Receiver.

The circuit of the little set was studied and it was decided to add r.f. and a.f. stages. This would make a five-tube receiver which would not be too heavy on the vibrator unit available—a FS6 unit—and as there was no trouble in keeping a 6 volt battery charged, the job was put under way.

It was decided to make use of the latest tubes available and to include a.v.c. The next problem was the tuning of the aerial, r.f. and oscillator circuits. The idea of gang tuning appealed to the writer, but the work of coil trimming, etc., to get the stages to track properly did not, so it was decided to compromise and to gang the r.f. and detector and separately tune the oscillator.

About this time the 10th edition of the Radio Handbook came to hand wherein there was a five-tube receiver described using this system and it was decided to build the set along these lines and to follow their layout.

From the outset it was decided to use plug-in coils as these were the simplest to get going and in the writer's opinion the most efficient.

Let us take the circuit stage by stage. In the r.f. stage a EF50 is used. It was originally intended to use a 6K7 or 6SK7, but it was thought that the EF50 would be the best bet so it went in and there it stayed. A 6K8 was used in the original three-tube set, but the ECH35 looked better on paper so it was included. The manufacturer's recommendation to plate tune the oscillator coil was adhered to and it works very well. The X61M has also been used in this position without any alterations to the circuit and the results are as good as, if not better than, the ECH35.

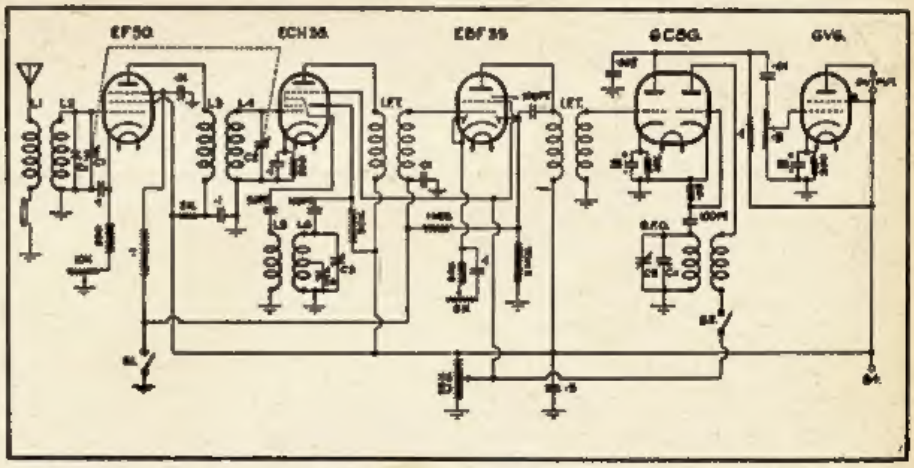
It was decided to stick to 455 Kc. i.f. stage to get a reasonable amount of selectivity and gain the one stage. After much thought, it was decided to use a EBF35 in this stage and use one of the diode plates for a.v.c. The a.v.c. circuit is quite simple and works efficiently.

The second detector and b.f.o. created no problem as the 6C8G had performed quite well in this position in the previous set, hence it was retained. It is necessary to bring the grid lead from the 2nd i.f.t. out the top of the can and use the first section of the 6C8 as the detector and the other section for the b.f.o. There is enough coupling inside the tube to give a good b.f.o. note. The b.f.o. coils are an old air core 455 Kc. i.f.t. with the trimmer across one winding (the plate) removed. A two-plate midget condenser is connected across the grid winding to vary the beat note from the front panel.

A 6V6G was the obvious choice for the audio stage and needs no comment, except to say that no provision has been made for headphones as the author does not use them.

It will be noticed in the circuit that a i.f. gain control has been included. This was not found necessary in the writer's set and was never used especially as later on an S meter was included in this stage and the gain control only upset the meter adjustment. The r.f. gain control was found quite satisfactory for controlling strong local signals.

The original set was constructed on a 13½" x 7" x 2½" aluminium chassis and the front panel is 14" x 10" masonite. The sketches will give an idea of the chassis and front panel layout. There is an aluminium shield on the back of the panel between it and the oscillator bandspread tuning condenser to cut out hand capacity. The r.f. and mixer tubes and coils are enclosed in an aluminium



C1, C2—50 pF. variable, ganged.
C3—0.0001 uF. variable.
C4—35 pF. variable.
C5—2 plate variable.
Cx—see coil table.

DETAILS OF COILS FOR 80, 40 AND 20 METRES

	L1 and L3	L2 and L4
80 Metres	9 turns	45 turns on 1¼" ribbed former, close wound.
40 Metres	6 turns	22 turns on valve base, close wound.
20 Metres	4 turns	10 turns on valve base, close wound.

Spacing between L1 and L2, and L3 and L4, ¼".

Cx is mica trimmer taken from i.f.t. (later used as b.c.o. coil) and placed across L2 on the 80 metre coil only.

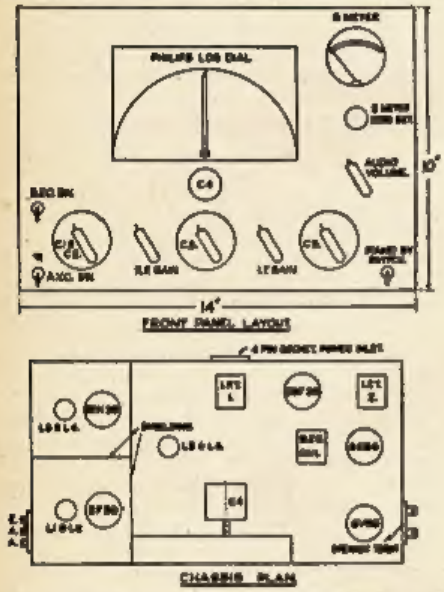
	L5	L6	Tap	
80 Metres	7 turns	19 turns	top of coil	Close wound on 1¼" ribbed former.
40 Metres	5 turns	15 turns	7 turns	Winding spaced 1¼" on 1¼" dia. former.
20 Metres	4 turns	5 turns	3 turns	Winding spaced ¾" on 1¼" dia. former.

All windings with 22 gauge enamel wire.

* Box 52, Leongatha, Victoria.

box and separated from each other with a piece of aluminium the same height as the rest of the shielding which is 4½" high. No lid is used on the top of the box.

Condensers C1 and C2 are ganged together and mounted under the chassis close to their respective coil sockets, while C3 is also mounted under the chassis at the oscillator coil socket and a flexible extension shaft goes to the front panel for band-setting. With the coils in use in the original set the band-set condenser peaks the centre of the band at about 60 degrees on a 100 degrees scale and if the set is required for Ham band use only, it is suggested that the coils be well doped so that the



turns do not slip with handling and C3 be replaced by a 0.00005 uF. fixed mica condenser and a 3-30 pF. air trimmer be mounted on each coil connected to the pins so that when the coil is plugged in, the 50 pF. fixed and the trimmer are in parallel. The trimmer condenser can then be used to set each coil in the band and there will be no trouble when changing bands in finding the exact spot, and the main tuning dial, C4, can then be reasonably accurately calibrated.

The coil table gives full particulars of the number of turns and construction of each coil. The bandset tap on L6 gives about 100 to 120 degrees bandspread on each band on a 180 degrees scale. Coils for 80, 40, and 20 metre bands only are shown as these are the only bands used by the author. The set should work quite well on 10 metres also, though there will be some trouble from double spot tuning.

An S meter circuit is also shown which has given quite good results. It is connected in the screen circuit of the r.f. tube. In the circuit, the screens of the EBF35 and ECH35 mixer are joined together and go to the 100 volt tap on the voltage divider. If the S meter circuit is wired in it will be necessary to disconnect the screen lead of the EBF35 from the 100 volt tap and connect it to the main B plus and another 0.1 uF. by-pass condenser will be required to by-pass the screen circuit. The circuit diagram of the S metre is self explanatory.

As stated previously, the set works quite well from a 6 volt accumulator and FS6 or similar vibrator unit, or it can be operated from an a.c. power pack delivering 250 volts at about 80 Ma. The power supply is built on a separate chassis.

The tuning is quite simple and once each band is found, it will be noticed that C1 and C2 will peak when tuned with C4. On 40 and 20 metres, these condensers can be left set in the middle of the band, but on 80 metres it is necessary to follow up with these condensers to some extent.

If a 6K7 or 6SK7GT is used in the r.f. stage in place of the EF50 it will be necessary to take the screen voltage from the 100 volt tap on the voltage divider.

The results from the little set far exceeded all expectations. The set was on loan to a local Ham for some months and he reported that its performance astounded him.

It is suggested to anyone building this set that they use a larger chassis with a view of further expansion at a later date.

The Present Phase of the Solar Cycle

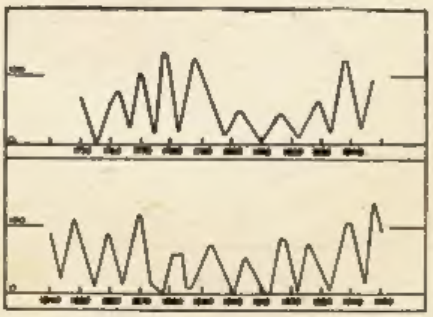
BY L. L. BRENNAN,* VK2AMU

The time of the last sunspot maximum was 1947.5. Although this was three years ago, sunspot activity has remained at a relatively high level. It has decreased by approximately one third since maximum. As can be seen in the diagram, maxima have been alternately high and low since 1850. If this alternation had continued, the maximum of 1947 would have been lower than the high one of 1947. The maximum of 1947, however, did not follow this rule, but proved to be the highest (N = 152) since 1778 (N154.4). It was approached only by the maxima of 1837 (N = 138.3) and 1870 (N = 139.1).

The average latitude of spot groups decreases steadily from approximately 25° at the beginning of a new cycle to about 5° at the end of the cycle. At maximum the average latitude is about 15°. The latitude of sunspots during the present cycle has decreased at the expected rate, being 17.3° in 1947, 14.3° in 1948, and 13.4° in 1949. The relatively high average latitude at maximum was due to the early occurrence of maximum in the cycle. If the two hemispheres are considered separately, a difference of two years between northern maximum and southern maximum is found in the present cycle, the southern maximum having occurred in 1947. The northern belt maximum occurred in 1949 and the greater activity has remained there to date. Higher latitude groups of the new cycle may be in evidence during the latter part of 1952 or early in 1953.

The time of the next sunspot minimum can be estimated only from the average length of the cycle (11.2 years) and the average time from maximum to minimum. A provisional forecast by the "American Association Variable Star Observers Solar Division" for the next minimum is set for the period between 1954.6 to 1955.3.

Professor W. Gleissberg, Director of the University Observatory at Bayazyt, Instanbul, Turkey, has forecast with a probability of 19-1, that solar activity at the coming minimum will be stronger than that of all minimum since 1843.



The sunspot cycle for nearly two centuries. The relative spot numbers are computed from the formula:

$$N = K\ (n + 10g)$$

where N is the Wolf number, n is the number of individual sunspot umbrae, g the number of groups, and K a constant determined from the observing conditions.

* Cr. Duke and Albany Sts., Gosford, N.S.W. Observer for "The American Association Variable Star Observers Solar Division."

Accurate Frequency Transmissions for 1951 from VK3WI

During last year, four Accurate Frequency Transmissions were made from VK3IK, representing VK3WI. These transmissions were made possible with the help of the Frequency Measuring Station at Mont Park, and the thanks of the Victorian Division are hereby extended to those boys at that Centre.

To fit in with their long list of activities, it has been decided to change the month of operation for the transmissions.

Dates for the next twelve months are as follows:—

Thursday, 22nd February, on the 7 Mc. band.
Thursday, 24th May, on the 3.5 Mc. band.
Thursday, 23rd August, on the 3.5 Mc. band.
Thursday, 22nd November, on the 7 Mc. band.

It will be observed that **two** of the transmissions will be on the 80 metre band. This procedure was thought advisable as this band should give complete coverage over the State, and the QRN should be less at that time of the year.

Transmissions take place on the 7 Mc. band at intervals of 20 Kc., whilst on the 3.5 Mc. band, the intervals of 30 Kc. will be taken.

The operating procedure and times of transmissions are as follows: 9.5 p.m., phone transmission on 7196 Kc., with a general call, and information on what is about to take place. 9.15 p.m., VK3WI changes frequency to 7000 Kc. and calls as follows on c.w. at 12 w.p.m. "AFT (three times), DE VK3WI (three times), then —...— QRG —...— 7000 Kc. (twice)." The key is then held down for one minute, then "QSY 7020 Kc. (twice), DE VK3WI (once), AR."

The transmitter then commences operation on 7020 Kc. and the procedure is repeated until 7200 Kc. is reached, after which there will be a phone transmission on 7196 Kc. and if corrections are immediately available, they will be broadcast at this time, also on the following Sunday broadcast over VK3WI.

The 80 metre transmissions will be the same as the former, only the voice will call on 3598 Kc. and then the checks will start on 3.5 Kc. and finish on 3.8 Kc., with the exception that the checks will be given every 30 Kc.

If the hour is not too late, frequency checks will be made for any member contacting VK3WI.

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ANOTHER TYPE 3 MK. II MODIFICATION

When attempting to use the ZB2 as a converter in conjunction with the Type 3 Receiver and supplying it from the Type 3 power pack, it was observed that when the ZB2 drew current the sensitivity of the Type 3 receiver dropped off sharply; so much, in fact, as to render it almost useless for reception of any but the strongest of signals. A study of the circuits with particular reference to the biasing arrangements, soon revealed the reason for this and enabled a simple cure to be effected.

A system of back biasing is used. A 500 ohm resistor in the power pack through which all current drawn by the receiver and ZB2 must flow, produces, normally, about 12.5 volts bias which is applied to the various stages by means of a suitable voltage dividing network. When the ZB2 draws current, this voltage increases to more than 15 and the consequent result is more negative bias on the tubes and less gain. In order to keep this voltage down to about 12.5 the ZB2 is being used, a resistor is connected in parallel with the 500 ohm back biasing resistor. It was found more convenient to mount this resistor in the receiver rather than in the power pack as it was also necessary to mount a switch to enable it to be cut out of the circuit when the ZB2 was not in use.

This switch, a single pole single throw toggle, is mounted above the b.f.o. control knob and wired so that, when closed, a resistor of 750 ohms is connected across the negative bias supply. 750 ohms is really a bit low as the bias voltage with the ZB2 in use drops to about 10 or 11, but it was the only resistor available that approached the correct value and the slightly lower bias voltage has restored some of the sensitivity lost by the receiver due, apparently, to ageing of the tubes.—VK3JO.

PREMODULATION CLIPPING AND FILTERING

Their Effects on the Intelligibility of Speech

Over the past ten years, radio journals have published extensively on amplitude and frequency limiting speech amplifiers. The fundamental purpose of such equipment has been the improvement of transmission efficiency in radiophone transmitters, by permitting only the frequencies essential to speech to modulate the transmitter, and by maintaining the highest average proportion of modulation possible without exceeding the transmitter's linear capability. The principal devices recommended have used volume compressors, limiters, clippers, or automatic gain-control networks, and usually incorporate frequency filters which eliminate all but the band occupied by typical speech.

The physics and economics of these amplitude and frequency restricting amplifiers have apparently been generally accepted. However, there seems to have been a good deal of unwillingness to employ them, regardless of their technical advantages, on the ground that they so distort the natural voice as to jeopardise intelligibility. This argument does not square with the results of some recent experiments designed to study exactly this problem.

How do clipping and filtering affect speech intelligibility? Indicative of this work was an article published about four years ago in "QST" (Feb. 1946, p. 46). Several others have appeared in the engineering and scientific literature which are worth the Amateur phone man's consideration. This paper will undertake a review of these articles, and attempt to demonstrate the usefulness of their results.

First, let us refresh our knowledge of the dynamics of speech. When the human voice is impressed upon a microphone, voltages are set up whose instantaneous peaks normally exceed the root-mean-square value by 12 to 15 db. It is this "peak factor" which requires us to design our amplifiers with a much greater range of linear amplification than we expect to use most of the time, when we wish to transmit voice signals with minimum distortion. Also, in English as we speak it, the average vowel produces a peak voltage which run about 12 db. higher than that produced by the average consonant. This 12 db. figure is the **average** vowel consonant ratio for all combinations of sounds in our language; the **instantaneous** value may vary from a fraction of the average to several times its magnitude. Now, peculiarly enough, the **intelligibility** of speech depends much more heavily upon sounding of consonants (b, p, z, s, t, d, f, v, th, k, l, m, n, etc.) than upon vowels (a, e, i, o, u, y, etc.), despite the fact that the ordinary vowel sound has around 16 times the power of the usual consonant.

EFFECTS OF CLIPPING ON INTELLIGIBILITY

From the foregoing, we can immediately see what happens when the peaks are clipped from the speech wave. At one and the same time we reduce (1) the peak factor, and (2) the vowel-to-consonant ratio. Effectively, we have cut down the range of variation in speech-energy amplitude, and in so doing have given proportionally greater emphasis to consonants, upon which intelligibility largely depends, as we have seen.

This would lead us to expect that we might improve intelligibility by the use of clipping. There is, on the other hand, the possibility that the distortion of amplitudes resulting from peak clipping might actually reduce intelligibility. This is the gist of the question for which answers have been sought in the psychological laboratory, using some techniques of measurement which have become standard in studying voice communication.

Some years ago the Bell Telephone Laboratories devised tests to measure the effects of telephone circuits on the intelligibility of speech. A talker would read lists of syllables or words made up of all the sounds of the English language, in various combinations. His voice was then transmitted over a telephone circuit to a group of listeners who would write down what they thought the talker had said. By comparing the talker's original list with the listeners' reproductions of it, a percentage could be computed representing the proportion of spoken sounds correctly received by the listeners, as circuit conditions were systematically changed by introducing various degrees of filtering, attenuation, non-linear amplification and the like.

EXTRACT FROM "QST"
NOVEMBER, 1950

In World War II. this method was applied, by a group of psychologists at the Harvard University Psycho-Acoustic Laboratory, to a study of the effects of premodulation clipping upon the intelligibility of speech transmitted over a miniature radiophone circuit, using standard amplitude modulation. The results of this testing showed that in the absence of QRN, when extremely weak unclipped signals were only about 30% intelligible, using 24 db. of clipping would raise intelligibility to 75%. These percentages represent intelligibility of words on the special lists; the equivalent in connected meaningful sentences may be higher. Such an advantage in favor of clipping also holds when QRN is very heavy, to almost the same degree.

Listeners in these experiments were asked to report on change of voice quality as clipping increased. Here is their average opinion: at 0 db. clipping, natural voice; 6 db., clipping effects barely noticeable (comparable with standard broadcast quality); 12 db., talker appeared to be enunciating with unusual care; 18 db., voice took on a sharp "sandy" character, quality rated not as good as before; 24 db., voice was coarse and "grainy," rated as poor. Note, however, that despite the very evident changes in voice quality, intelligibility actually improved, particularly when conditions were less than optimal. This effect has been noted before, although perhaps not so explicitly documented.

The question arises, "What about the effects of clipping on intelligibility when conditions are nearly perfect?" The most definitive answer available comes from another series of experiments. With 0 db. clipping, signals were 100% intelligible; as clipping was increased, intelligibility fell off slightly until at 20 db. clipping it had reached 96%. Clipping was gradually advanced, and at 100 db. (almost all speech peaks flattened to rectangles), intelligibility had fallen to 75%. (This, remember, under ideal conditions of quiet for both talker and listeners, with no fading or interference.) Incidentally, these experiments revealed that with signal-noise conditions which completely obscured unclipped speech (intelligibility at 0% to 10%), the same signal when clipped 100 db. and over was 30% intelligible. In these experiments, nothing was said about changes in quality; it could be expected, however, that with such severe clipping as 100 db. it would be very hard to identify the talker by the distinctive sound of his voice.

EFFECTS OF FILTERING ON INTELLIGIBILITY

Up to this point, we have discussed speech in terms of its gross amplitudes only, without considering the individual frequencies present in spoken language. For reasons dictated by engineering standards, several recent amplifier designs ("QST," Feb., 1949, p. 11; "Ham News, 5, 3, May-June, 1950; "QST," July, 1950, p.50; "Amateur Radio," Jan., 1951, p.4) have included both high and low pass filtering. Since this practice is becoming more widespread, let us examine its effect on intelligibility.

This matter has also been investigated in the psychological laboratory, under conditions comparable with those found in the Amateur phone bands. Using the same testing procedures as in the study of clipping effects, a talker's voice was transmitted over a wire circuit to a group of listeners. The speech was subjected to various degrees of filtering and attenuation, and was then combined with an unfiltered, constant-intensity thermal noise, simulating QRN and led to the listeners' headphones. At no time was peak clipping permitted to occur; thus the effects of filtering alone could be evaluated. One series of experiments, studying changes of intelligibility at various signal levels and signal-noise ratios when either high or low frequencies were separately filtered out, showed that when everything below 350 cycles was cut off, intelligibility of moderately to very strong signals was slightly improved by comparison with unfiltered signals. However, at the lower signal levels, where QRN presumably was more disturbing, intelligibility suffered some loss as a result of such filtering. Extremely weak signals in noise were 5% intelligible when the 350 cycle high-pass filter was in the circuit, but jumped to 25% when the filter was switched out, although signal

strength and noise level remained unchanged.

It was further found that when signals were strong and in the clear, everything up to 580 cycles could be cut off with little damage to intelligibility. As to cutting off the highs, when everything above 3950 cycles was eliminated, there followed very little reduction of intelligibility regardless of signal strength. However, when the cut-off point was moved down to 2500 cycles, results were quite different. When signals were strong and clear, intelligibility was down to 78% with the filter in, as compared to 90% with no filter. As signals grew weaker, the **proportional** loss of intelligibility due to filtering diminished somewhat, although even at the lowest signal level used in the tests, the 2500 cycle low-pass filter hampered intelligibility appreciably.

We may now ask, "What happens to intelligibilty when we filter off both highs and lows at the same time?" The effects of bandpass filtering on speech in a noise background have been separately investigated. As before, unfiltered constant-intensity noise was superimposed upon the filtered speech signal, which was also varied in strength to secure various signal/noise ratios. As might be expected from the discussion of high and low-pass filtering, greatest intelligibility at all signal strengths resulted when the widest passband was used (130-9200 cycles, intelligibility about 90%). The effects of filtering upon intelligibility were most noticeable, as before, when signals were strong and relative noise level was low. Interestingly enough, at all signal levels, the passbands 340-3900 cycles and 550-3900 cycles produced almost identical effects on intelligibility; **actually, neither one seriously impaired intelligibility when compared with the widest passband.** However, shifting the cut-off points toward each other clearly resulted in poorer intelligibility, as the following table shows. Signal strength and signal/noise ratio are the same for all filter combinations.

Passband Limits	Intelligibility
130-9200 cycles	90%
340-3900 "	80%
550-3900 "	80%
550-2500 "	70%
870-3900 "	65%
870-2500 "	55%

SUMMARY

1. Speech clipping definitely improves intelligibility.

2. As signals get weaker, and as signal/noise ratio gets worse, the greater the clipping, the greater the improvement of intelligibility, up to at least 24 db. of clipping.

3. Extremely heavy clipping (100 db. or more) is beneficial under very severe signal/noise conditions, although it will not make poor signals completely understandable.

4. Although the quality of speech changes noticeably over the clipping range from 0 db. to 24 db. (and probably above), even under the best signal conditions intelligibility is not impaired by clipping.

5. In general, high-pass filtering up to 350 cycles will not harm intelligibility, and may actually make a slight improvement when signals are strong and clear.

6. Under optimum signal conditions, frequencies below 580 cycles may be eliminated with little loss of intelligibility.

7. Cutting off frequencies above 3900 cycles by use of a low-pass filter will have hardly any effect on intelligibility.

8. Cutting off frequencies above 2500 cycles will seriously impair intelligibility.

CONCLUSIONS

We may conclude, therefore, that the engineering advantages obtained from speech clipping prior to modulation are accompanied by definite improvement of intelligibility at the receiving end of a radio circuit, especially under adverse operating conditions. Further, the change in voice quality noted as a by-product of clipping does not really impair intelligibility of the signal; speech can be distorted very severely by non-linear transmission and still be perfectly understandable. Filtering to avoid or remove the undesirable side effects of clipping will not impair the intelligibility of speech until the upper cut-off frequency gets down around 2500 cycles. In fact, filtering off the low frequencies (below 350) may actually improve intelligibility under good signal conditions. The limit for cutting off low frequencies is apparently much less critical than for high frequencies; any cut-off point up to almost 600 cycles may serve for the lows with little damage to intelligibility, while for the highs cut-off should be well above 2500. It appears now that the more or less arbitrary low-pass cut-off of 3000 cycles now rather widely employed may be a little too slow for optimum communication. This last observation assumes, of course, that the frequencies above nominal cut-off are abruptly and completely attenuated. It may very well be that intelligibility would not suffer so seriously were the frequencies above, say, 2000 cycles subjected to the relatively gentle treatment of the typical RC network, i.e., 3 to 6 db. attenuation per octave.

A ZERO BEAT INDICATOR

It is very handy to have an exact zero beat indicator when matching two r.f. signals. They can be matched on a c.r.o., but few have the facilities for doing that. If the signals are strong enough, you can hear the swish in your receiver or watch the S meter swing.

In these cases all is easy, but more commonly the signals are not strong enough to allow of such obvious and easy measures. A very easy, exact and almost universally obtainable method is in one's own receiver.

The method is to beat the two signals until there is no audible note. In that position the frequencies are, we will say, within ± 50 cycles. If now you turn on your b.f.o. to give a note of about 1,000 cycles, you can beat the two signals very easily to within a cycle a second. As you approach the point of exact zero beat, the 1,000 cycle will vary according to the difference between the two r.f. signals. The effect is very marked and is just as obvious on weak as strong signals.

It is an effect with which those who match audio frequencies exactly are familiar. You can use any frequency of note from your b.f.o. that you like. The whole system is extremely simple and very accurate.

There is only one point to watch—that is that you don't zero one of the r.f. signals with your b.f.o. For that reason it is best not to turn your b.f.o. on until you have got to the point of no audible note.

A fundamental point in matching r.f. signals, but one that will bear repeating, is that varying the tuning of the receiver does not vary the beat note from two outside signals. If the beat note does vary, one of the incoming signals is beating against the oscillator in your receiver. This is exemplified when tuning in a single station on a receiver and when tuning across two stations who are heterodyning one another.

—Dr. Leo H. McMahon, VK2AC.

DX NOTES BY VK4QL

Well, up here I find I am still digging down in the noise and hash to see what DX is to be found. What has been there has not been strong, and it has been found at unexpected times in some cases. Static on 14 Mc. has been what I would normally expect to find on 3.5 Mc. and occasionally 7 Mc. in Sydney. Some peculiar effects have been noticed with the static. It would be very severe, but there would be some signals on the band even if only Pacific or Asian. Within a short space of time the noise level would drop considerably and the signals would also disappear, causing one to check his receiver for serviceability. But the receiver would be OK and next day the noise would be there as usual. Once again a big change took place on the 14 Mc. band during the month. In the beginning round 6 a.m., North and Central Americans together with North and West Africans were workable, but they were non-existant at the end of the month. I believe the Southern VKs heard me working the Africans but they could hear no sign of them.

14 Mc. has been pretty useless of late except after midnight and up to 3 a.m. Have had only one or two sessions at that time so cannot give a consistent report. But with the poor conditions, if you are lucky enough to be around at the right time, there are some good pickings.

One morning recently when the 14 Mc. band was flat, I played a hunch, and braved the QRN and went to 7 Mc. to find the band full of DX, including the North West Africans which I had been working on 14 Mc., such as FF8JC and CR5AC. The thing I was crook on was how many days it had been open before I went there. The opening only lasted four days. Stations worked in that period were SP1CM, FA8RJ, SM7IA, HA4AS, DL1CS, UB5BH, FF8JC, CR5AC, while others were heard there.

Evenings on 7 Mc. have been hopeless due to the high noise level, and in any case I could only hear one or two weak W and ZL signals. 3.5 Mc. was listened to once or twice but the noise was terrific, but even through it, W5ATW was heard at 10 p.m. one night.

Was all set for a CQ from VP3SW on 14 Mc. one night, when an extensive power failure occurred, so I don't know what happened, but guess plenty were after that one. The strong Interstate signals which were heard last month on 14 Mc. have dropped right off and are very unsteady now.

A strange coincidence occurred the morning I worked FF8JC and CR5AC on 7 Mc. Their QSLs for 14 Mc. contacts arrived in the morning's mail.

Last month I mentioned the call of MGBN1. Well, it's derivation is obtained by the operator using the ship's call sign and adding the letter 1 to it, which, the op. sez., is in accordance with current regulations. Port of registry was in India.

FZR6 was always a good band marker on 14 Mc., being 2 Kc. outside the band. Now, however, he has moved into the band, and for the whole of the month has been on between 14004 and 14006 Kc., varying from time to time. As if that was not enough, he has had two bad parasitics which were very broad and rough.

Two points of interest this month come from ON4QF and KP4KB. ON4QF said he will probably be going to Andorra this spring. His plans to do it last spring were prevented by red tape he said. Wants the VKs to keep an ear open for him; who won't be. KP4KB, operating KP4HU worked VK5LE the long way round on 7 Mc. at 0715 E.S.T. on 22nd Dec. I had heard KP4KB two days before, but had to QRT before had a go at him. This was during the period of opening I mentioned earlier.

A number of stations have appeared on the band this month using the HS prefix, so another difficult one has a few more starters. HS1VR wanders all over the place during his transmission, often under a commercial.

VR1F has supplied the following on all existing VR1 stations:—

VR1A, Chas Adams, at Tarawa.
VR1B, Stan Silver, at Tarawa.
VR1C, uses number of ops., at Tarawa.
VR1D, Des Walcot, at Bairiki.
VR1E, Ted Lamon, at Canton.
VR1F, at Canton (see last month's notes).

Don also says there are nine KB6 licenced, but not very active.

The rarer prefixes for the month show some interesting ones. 14 Mc.: ZC4AN, ZD1AR, ZD2DYM (Nigeria Signals Squadron, Lagos), ZD2LO, ZD6HJ, CR4AH, CR5AC, CR5AD (Box 200, Bissau), OQ5LL (Box 4129, Leopoldville), FF8AC (Box 19, Port Etienne), FF8GP, FF8JC, FM7WF, FQ8AC, FY8AC (Cayenne, F.G.), KC6WD, CGLB (C.G. Depot, Box 3, Navy 926 F.P.O., Frisco), VP3CW, VP4TB (21 Edward St., Port of Spain), EQ3FM, YS1O (Box 329, San Salvador City), AP2Z, 3P5B, VQ8CB, C3CL (Box 1, Tanchui, Taiwan), MI3FG (Box 513, Asmara), VP7NH, CP5EK (Box 496, Cochabamba), KG4AD (Box 35, Navy 115, F.P.O., New York), PJ5OK, CP5EQ, UG6AB, UD6AH, I1MV/Trieste, YI3BZL (QSL via G3BZL). In addition to those worked at the 7 Mc. opening, these were heard: KP4KD, HB9IN, ON4ZJ, UB5KAA, UB5BZ, CN8MZ, DL4CR, 4X4CF, CR7IZ, I1LI, I1ARK, I1AIV, FA8BG, YU1CAG, OK1SK and a few ZS. All between 6 and 7.30 a.m.

QSLs for the month: VO6A, VP5FR, FF8JC, CR5AC, NY1AA, TA3AA, HA4AS, FM7WF, FN8AD.

Would like to know from 3RJ if any QSLs have been sighted from HC8GRC to date. According to "QST" they have been sent so am wondering if this is another I miss out on; eight months since the contact.

Have a few doings from some of the gang this month including Eric Trebilcock, who took pity on me, when my appeals for dope from transmitting members get negative results. Many thanks fellas. Eric says he has qualified for his H.A.Z., by receiving a QSL from AC4YN, but it took from 1946 to get it, so one never knows when that much needed QSL may turn up. Has received some interesting QSLs, such as OY3IGO, ST2FC, IS1EHM, CR6AI, I1RC (Trieste), and also VP2AD and EA8BC. Trev., you may be able to do a swop for something Eric needs. His heard list for this month on 7 Mc. includes ZS7D and four Ws the long way round, which confirms something which I thought I must have misheard previously. 2DG won the jackpot one afternoon. Had heard a few ZS stations coming through on 14 Mc., so called a CQ ZS and of all people ZS3K answered him. Keith has also been hearing and working stuff like F9QV/FC, CT3AN, YI3ECU. Also finds that 7 Mc. is a band well worth watching. Alan, 3CX, has now reached a total of 138, by hooking AP5B and KC6WC. As I am also 138, have challenged him to reach 150 worked first. Has now worked all his countries for the W.A.P. Award, so we are both waiting for the total QSLs necessary. 5BY has 185 countries up, whilst 2ACX has 212 worked and 200 confirmed. 2HZ occasionally manages to open the cupboard and let the light of day on his gear. One opening produced a QSO with YS1O, his first new country for 20 months and the total of 172. Is very pleased, as he now has his W.A.Z. certificate. This makes us wonder where AC4YN is, these troublesome days in Tibet. 2JP requires three more for his phone DX C.C.

Well blokes that about winds up the issue for this month. Ham Radio commercialised was noticed the other day.

DX C.C. LISTING

PHONE

Call	No.	Ctrs.	Call	No.	Ctrs.
VK3JD	1	151	VK4JP	8	114
VK3EE	10	148	VK2AWW	14	113
VK6RU	2	141	VK4WJ	17	104
VK2BZ	3	141	VK2ADT	13	103
VK6KW	4	140	VK2AHA	15	102
VK4KS	9	135	VK4WF	16	101
VK6DD	6	126	VK3GG	15	100
VK3LN	11	125	VK3IG	5	100
VK4HR	12	122	VK3JE	7	100

CW

Call	No.	Ctrs.	Call	No.	Ctrs.
VK3BZ	6	183	VK4DO	20	113
VK3FH	15	165	VK7LZ	17	112
VK2EO	2	152	VK3JE	21	108
VK3CN	1	151	VK4RO	13	107
VK4EL	9	150	VK2OW	16	107
VK2QL	5	141	VK2YD	27	105
VK3VW	4	140	VK5BO	23	105
VK3KB	10	138	VK5FH	21	105
VK6SA	28	136	VK3JI	25	104
VK4HR	8	131	VK2YO	24	103
VK6RU	18	128	VK4FJ	29	102
VK4RF	11	125	VK3APA	14	101
VK3EK	3	122	VK3NO	19	101
VK5RX	23	119	VK3CX	26	101
VK3UM	12	116	VK2OA	32	101
VK3XK	30	114	VK7RK	22	100
VK4DA	7	113	VK7LJ	24	100

OPEN

Call	No.	Ctrs.	Call	No.	Ctrs.
VK3BZ	4	202	VK3JA	42	114
VK6RU	8	175	VK2ADT	14	113
VK3KX	1	167	VK4RO	21	110
VK4HR	7	167	VK3ZB	24	110
VK3HG	3	166	VK3HT	41	110
VK6KW	13	161	VK4WF	40	109
VK2DI	2	160	VK2ZO	25	106
VK3JE	12	154	VK2YL	11	106
VK4EL	10	150	VK3JI	33	105
VK4KS	24	149	VK5AWN	36	105
VK4DO	15	140	VK2VN	18	104
VK3MC	5	139	VK4UL	27	104
VK3OP	19	137	VK2HZ	17	103
VK6DD	22	136	VK7KB	30	103
VK2ADE	26	133	VK2TI	37	103
VK2AHA	9	128	VK3HO	35	103
VK3LN	29	126	VK6DX	42	103
VK2AHM	20	125	VK7RK	31	103
VK2NS	16	123	VK4TY	35	103
VK4FJ	32	120	VK2ACX	6	100
VK7LZ	23	116	VK3TG	39	100
VK5FL	36	116			

HC1JW was on using 2kw., yes two is right, and a rhombic.

J stations are not now permitted to operate on 7 Mc

● The thought for the month. You can still use cheap postage rates if you get the energy to send me some "gen." Penny only for surface mail, and fourpence for air mail.

7 Mc. ACTIVITY BY VK5JE

In South Australia conditions on 7 Mc. have been very patchy, very few DX stations are coming through at night, and only two or three W stations are workable However Asiatic stations are heard almost every night and the following have been recently worked: VS7MG, UA0KOB, MX1AF who gives QTH as 250 miles east of Muskeg, DU1MB who is on every night on about 7005 Kc. from 10.30 p.m. EST. Also the following KV4AU, KK6AH, VK9ML, W1FAX KW6 (Wake Is.) who puts in a S8 0 signal. Europeans can be heard for a brief period around 0.30 p.m. EST, but are hard to contact. The following have appeared recently: FA0US, F8NF and a few Gs.

Early morning rising is met with mixed results but one morning realised contacts with YO3PF, HB9JU, DL3SD and DL7AA, 19th Dec. at 4 a.m. revealed conditions that could well be mistaken for 14 Mc, the band being alive with strong Europeans. The following were snatched up. G2APY, G3AZ, JA3FE, G5DQ, HB9KV, YU1CAG (Belgrade), choice ones heard that morning were SM7LK, SP1CM, OH2XT, CT1DJ, and FA8BG working VK4QL. The DX continued coming through until 7 a.m. EST However a week later a listen at 5 a.m. only revealed a few stations breaking through and F3NB was worked and CT1DJ heard. The writer finds it hard to rise early but thinks that the younger chaps ought to be a bit more enthusiastic —after all 25 years is a long time to keep THAT enthusiastism, hi.

VK1JW, Macquarie Is., often pops up on about 7005 Kc and gave the writer his 40th country on this band. South Americans are rarely heard although numerous Cuban stations like CO8RH, CO6ZL, etc and Canal Zone stations are heard. A movement to the band wants to listen for weak phone carriers on his intended frequency as fruitless QSs have revealed the fact that Central American phone stations are causing much QRM in the States on the low frequency end. A few culprits in VK please note! The stations just outside the low frequency end of 7 Mc band, signing AR — —, are Army stations in Japan and one advised me they are not allowed to work Amateurs. A DU station in Manilla although contacted four times, always says near the end of the QSO that a ban is existing and he is not allowed to contact me!

VS7NX appeared on this band and was worked on the 31st Dec. A commotion was caused by the appearance of HL1BD (7040 Kc) on New Year's Day at 8 p.m. The "dog-fight" of stations trying to work him was reminiscent of 14 Mc when a "rare" one turns up. He was heard telling Yanks "I'm not supposed to be on the air, but what the heck! It's freezing here and I'm trying to send with thick gloves on." He gave his home QTH as a W2. Here's hoping we hear him from his home before long

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MODIFICATION TO AR8 RECEIVER

It will be recalled that in the AR8 receiver, the plates of V202 (m.f. converter) and V102 (h.f. mixer) are tied together and fed to the primary of the first i.f. transformer T201.

It was found that the shunting effect of the m.f. converter tube was accounting for quite a large loss of signal when operating on h.f. and on 7 Mc. this loss was measured at 12 db

To take advantage of this extra gain and selectivity, it was decided to switch the plate circuits. Switch S102 (m.f.-h.f.) was used for this function and as no spare contacts were available, the pilot lamp circuits oh terminals 6, 7 and 8 were removed. The switch was rewired with terminal 6 going to connection A4 on transformer T201, terminal 7 to the plate of V202, and terminal 8 to the plate of V102.

The pilot lamp circuits had previously been re-wired for 6 volt operation. The pilot lamps being 3v. type were now connected in series and the resistor R113 deleted. Both lamps now operate continuously.

It will be seen that with this arrangement, although h.t. is removed from the plate of the tube being used, the screen is at its normal potential and while it is agreed that this is not good practice, the tubes have suffered no noticeable detrimental affects. With further rearrangement the screen potential could also be removed.

The position of the switch S102 in relation to the tubes V102 and V202 is most convenient for this modification.

Tests on 14 Mc. showed a marked improvement, especially in selectivity The signal gain was not measured at this frequency.

—Roger Torrington, VK3TJ.

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

FEBRUARY, 1951

The accompanying charts have been prepared by the Ionospheric Predict on Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

Canberra charts refer to following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Capetown
6	Far East	Manila

The Perth charts are similar to those based on Canberra. No forecasts are given from Perth to Zones Z2 and Z4 for the current months, as chart P-Z2 would be essentially similar to chart P-Z1, while chart P-Z4 might be unreliable due to auroral activity in high northern altitudes.

USE OF CHARTS

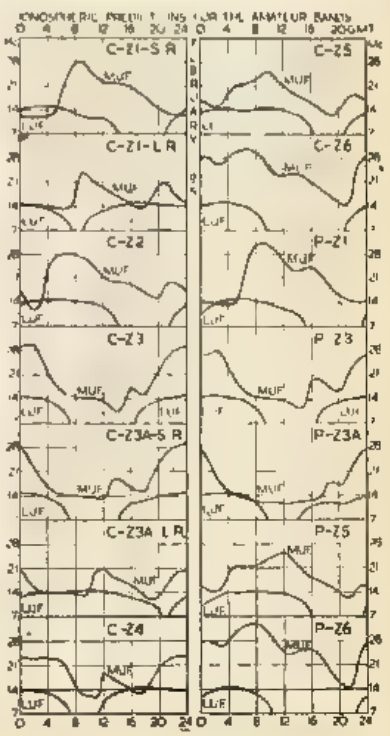
All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of the ionosphere, but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, Zones 1 and 3a it is necessary to consult both the short-route (s.r.) chart and the following long-route (l.r.) chart.

QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Perth-Manila circuit would be useful:—

1. Were good conditions experienced on 7 Mc. for the period 1000 to 2200 hours G.M.T.?
2. Was the 14 Mc. band workable around 2100 hours G.M.T.?
3. Was the 28 Mc. band workable from 0400 to 1000 hours G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.



FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

NEWS FLASH—VK5QR's 144 Mc. SIGNALS HEARD BY VK3RR

The expedition organised by VK3RR, and comprising Dick (3RR), VKs 3AKR, 3AGD, 3ALC, 3BV, and 3CR set itself up on top of Mt. Buangor (3250 ft.) on Sunday morning, 14th Jan. Due to numerous difficulties it was not possible to be in operation on Saturday evening, 13th Jan., as was originally intended. After setting up the gear, contact was made at 1450 hours on 40 mx. with VK5JD who was with VK5QR at Mt. Barker. Unfortunately this 40 mx. contact was badly QRMed and copy was made very difficult at both ends. Jack informed Dick that 5QR was about to transmit on 144 Mc. c.w. on a frequency of 144.5 Mc. Upon listening on this frequency, 5QR was heard calling 3RR at R4, S3. Although many attempts were made it was not possible to make two-way contact, but it has been since learned that Reg heard a signal on 145 Mc. (3RR's frequency), but could not copy it. 5QR's signals were copied for a period of 2½ hours, although QSB was exceptionally severe. Very good contacts were made with VK3GM and party (3ZL and 3HK) at Mt. Buninyong and VK3YS at Mt. Macedon.

VK2 144 Mc. CONTEST RESULTS

The results of the recent VK2 144 Mc. Contest were announced on 31st December. They were as follows: Points score (DX section)—VK2ANF 218, VK2WJ 214, VK2YM 212; Number of Contacts—VK2ANF 190, VK2HO 173, VK2WJ 166.

The contest was held in November and ran over three consecutive week-ends, with approximately 60 stations participating.

VICTORIAN V.H.F. GROUP NOTES

Group meeting night is the third Wednesday each month. All interested in v.h.f. activities, 50 Mc. and all bands higher are especially welcome. The December meeting, attended by 14 members, spent most of the evening discussing rules and regulations for field day contests. The results of theNov., 1950, field day contest were announced; 3ED winning the section for home stations and 3FO winning the portable station section. However, as only ten logs were received and very few portable stations were active, neither winner felt that he was entitled to the prize for his section, and both prizes will be held for the present and used for future contests arranged by the group.

Rules of Field Day Contest

1. Period of Contest. Between 1200 and 1700 hours on Sunday, 14th Jan., 1951, and the third Sundays in Feb., March, and April, 1951.

2. Contacts. Every contact made counts towards the final score with the restriction that only one contact with any one station per band per day will count unless location has been shifted at least one mile.

3 Scoring. The following system of mileage and points will apply:—

50 Mc.		0-10 miles	1 pt.
0-60 miles	1 pt.	10-40 miles	2 "
60-90 miles	2 "	40-60 miles	3 "
90-120 miles	3 "	60 miles up	5 "
120-400 miles	4 "	576 Mc.	
400-1300 miles	5 "	0-5 miles	1 pt.
1300 miles up	5 "	5-10 miles	2 "
144 Mc.		10-15 miles	4 "
0-30 miles	1 pt.	15-30 miles	5 "
30-60 miles	2 "	30-60 miles	6 "
60-90 miles	3 "	60-90 miles	7 "
90-120 miles	4 "	90 miles up	8 "
120 miles up	5 "		

1215 Mc. band and up, each band same as 576 Mc.

This system of scoring is the one adopted for the recent V.H.F. Marathon Contest and reference should be made to these columns of the July, 1949, issue of "A.R." wherein an explanation is given of some apparent anomolies.

4. Multipliers: 50 Mc. 1; 144 Mc. 1; 288 Mc. 2; 576 Mc. 3, 1215 Mc. and up 4. The multipliers for the various bands worked are added together and the score obtained from the mileage-points scale multiplied by this sum. Thus, if a station worked on 50 and 144 Mc., he would multiply his score by 1 plus 1, i.e., 2. If he worked on 288, 576 and 10,000 Mc. he would multiply the score by 2 plus 3 plus 4, i.e., 9.

5. There will be two sections, one for portable stations and one for fixed stations. Prizes will be allocated to the winners of each section.

6. A portable station is defined as one whose power is not obtained from either public or private mains, and whose location is at a point at least one mile from the home station address.

7. Logs, preferably on forms available from the Institute should show: Date, time, station worked, reports given and received, frequency band used, points claimed, estimated mileage for each contact, whether home or portable station, must be signed by the operator and should be posted to reach the Secretary of the Group by the end of each month. Any log submitted without these particulars will be ineligible. Although not necessary for the contest, it would be appreciated by the Group if logs were accompanied by a description of the gear used and by any comments or suggestions about the contest, field days and v.h.f. work generally.

8. In selecting the winners, the best three out of the four logs submitted will be used. A log should be submitted for each of the four days, except where there has been complete inactivity.

Information has been received within the last few days that 7AB on 145.8 Mc. will be transmitting and listening for each alternate five minutes commencing at 1925 almost every night with the beam on VK3. The commencing and finishing dates and the time of closing down each night are unknown.

Thirteen stations on 144 Mc. in one night is at least unusual if not something of a record. They were 3BH, 3EN, 3EM, 3FO, 3GW, 3YJ, 3ACH, 3BD, 3DM, 3VF, 3AKR, 3ED, 3JO.

50 Mc. ACTIVITY

NEW SOUTH WALES

The early part of the month saw the continuance of the good 50 DX conditions of late November with an excellent opening to VK6. The band then went dead for the opening of the 50 Mc. DX Contest. 144 Mc. is still trying to recover from the recent contest.

Main v.h.f. activity of the month has been confined to this band with the 50 Mc. DX Contest in full swing. After a poor opening, the Contest looked like dragging badly but the band came good with a bang on the 24th with all States being either heard or worked. The band was open for five hours. Xmas Day produced neither DX or locals! The 26th was once again a day of DX with the band open for hours to all States including VK6. The 27th produced a remarkable set of conditions with an all day opening, 80 signals and plenty of them. Some astounding totals were logged by stations participating in the Contest. The 28th was again a good day with VK6 in practically all day and ZLs plentiful during the evening.

During the opening of the 27th, several stations, including 2ADW and 2YR tried the high end of the band (53.6 Mc.) and found it just as good as the low frequency end. 2ADW received S8 report from VK3.

2RQ went mobile for the holidays using an 1143 rig with vertical whip antenna on his car. Managed to work some DX including a VK6. The strange object thought to be a flying saucer turned out to be Joe's hat which for some reason he threw into the air! 2HO working them on 10 mx. beam and getting out well, but is concentrating on building a 3 over 3 beam in an effort to put a better signal out of "Hart's 'Ollow." The Eastern Suburbs gang heard getting in each others' hair during the DX periods. 2WJ has shifted lower in frequency, 2VW moves about a bit and 2ABC stays put. It needs a good ZL to get past this trio at the low end of the band. 2WJ lost a director from his four element beam, but it seems to put out a better signal than ever. 2XK persevering with c.w. and has been raising some of the DX. News comes somewhat belatedly from 2AH that he worked 2PN of Tamut during October with S7 sigs at both ends. 2AML is putting out a strong signal. How about a listen on 50.1? Pat? 2ARH has re-appeared with a larger rx than the previous three-valve effort and is busy with beams. 2QZ pepped up rx. with EF50 pre-amp, and is hearing a few new stations—2AU of Gosford and 2GU Canberra.

2LZ started up at new QTH in Wentworth Falls, puts a solid signal into Sydney on 50 and 144 Mc. 2AHA Newcastle heard knocking over the DX with his 20 mx. beam. 2ADT forging ahead with a large score in the contest. 2XO Raleigh has a converter for six and is listening on the band. 2ADE Casino, 2LH Lismore and 2AMR Dubbo are country stations who have been heard in Sydney during the DX openings so skip must have been very short. 2WH and 2AMV of Forbes are both going on 50 Mc. and looking forward to making contact with Sydney. 2WH has S22 and hopes to hook an S20 on the end of it, whilst 2AMV is using S34s. Hear that 2YR went to 7 Mc. but was not greatly impressed! 2XX may be heard late at night burrowing even deeper into 50.04 Mc. despite the fact that his folded dipole reads 3,000 ohms from one side of the feed line to the other.

SOUTH AUSTRALIA

December saw 50 Mc. open up nicely on several occasions and on a couple of times signals were there all day and in the evenings. Signals from all VK and ZL were at terrific strengths. Scoring in the contest is spirited and with a few more openings early in January have made it interesting. Forecast is it will be between 2ADT, 6DW or 5QR, depending upon multiplier. Suggestions are that the contest is of too long duration and that QSOs be limited to one contact per station during contest. 5JD moves that school teachers be given a multiplier of point zero zero one, they having the wood on those who have to work over Xmas. Anyway, it was good fun and enjoyed by all. It was good to hear the country chaps being called by the DX showing they were getting amongst it.

In conjunction with 5KO and 5JD, 5KL has sent a converter to 5RA at Darwin in an attempt to get the chaps up there on 50 Mc. Results are expected shortly. 5KO and 5MO have been carrying out antenna comparison tests. 5HD has a xtal converter working to satisfaction now and has convinced brother 5BC of their merits, so Hughie will blossom with one before long. 5BC, 5MP and 5AX not heard here in the city, but the DX is heard calling you boys.

5RO had misfortune of lightning striking the mains and burning out his tx. power supply. Previously a xtal blew up. Col doing excellent job on single wire fed dipole. Has worked some ZLs. 5RT caused a slight panic by calling CQ W one afternoon. Matter not cleared up, but maybe it was a beat from 28 or 14 Mc. 5QR has xtal converter for 144. Can hear 5GL on it but not audible on old S22 rx. 5RT playing with xtal circuit capable of getting 23rd harmonic. 5JD had some difficulty getting harmonic osc. in xtal converter going. 5WL heard using v.f.o. 5KC heard playing back several VKIs, believe it was a recording. Viewed in bad taste in several quarters, suggest you read the good book again Ken. 5PS, OK Warrick, I can't get the country Hams to give me notes, but I'll admit your imagination is several db. better than my push-pull r.f. stage. 5GL heard working 5QR cross-band, eg., 50-144. No other news of higher frequencies this month, so for 1951 good hunting chaps and better v.h.f. DX.

WESTERN AUSTRALIA

Quite a marked increase in activity on this band during the last month or so (these notes are being written on the fifth of January). Firstly it was reported that 6MU has made a welcome reappearance on the band. Mal is still domiciled in Merredin and so far has not been worked from Perth although he has heard 6BO's signal up there. The rig runs a pair of 834o with 70 watts input and the antenna a three element beam. No doubt Mal has been amongst the DX during the past fortnight. Then 6LM appeared on the band picking a day when the band was open to the east and working a VK5 using an S07 doubling and a dipole. Wouldn't it? However, since then Lionel has made himself a three element beam, pushed it up 27 feet and has the final running straight through. Being on holidays he has also been able to keep a close watch on six and the result, some fine QSOs, particularly with VK5. Lucky Lionel they call him. Just before Xmas, 6BO went portable to Bunbury (approx. 100 miles south of Perth). Rollo returned to Perth for Xmas, and in time to work some DX from the home station, and then decamped to Bunbury again. From there he has worked 6GS, in Harvey (about 20 miles from Bunbury), 6RK, 6FC, 6GB, and 6AS, all in Perth. Not satisfied with that effort, Rollo has also worked VK5, 2, and 4 from the portable location.

The breakthrough to the east was approximately three weeks later this year in eventuating. The first sign of any DX was on the Wednesday before Xmas when 6GB heard an Eastern States' station in QSO with someone, but signals faded before any contact could be made. It must be realised that these notes are written from the metropolitan area man's point of view. 6WG, Albany, had opening previously and I think 6DW likewise. 26th December provided the first big opening and incidentally the best so far this year, or season, should I say. VK3s, 2s, and 3s were heard at very strong levels and the band stayed open from early in the morning until about midday. 6BO worked 19 stations, 6GB 11, and 6RK quite a few, not sure of Roger's score. 6GS, 6DW and 6WG in the country also successfully participated. At this time 6AS was down at Mandurah trying to catch fish, thereby missing out on the first opening. 6HR found that he could not receive the DX strong enough to go on and make contacts and was bitterly disappointed. However since then Lew has managed to work 5QR on c.w. and is a much happier man.

Early in the morning of December the 28th provided another good opening. On this occasion the band was open at 8.20 a.m. when 6GB arose and just for fun switched on the rx. Jack was very surprised to hear 2ADT at S9 and numerous other VKIs, 3s and 5s. According to 6BO, who was on holidays and didn't leave the band all day, it stayed open till 4 in the afternoon, with VK4s making an appearance during the morning. Rollo even heard ZLs and at one stage was called by a ZL, but signals faded and no QSO resulted. Very bad luck, Rollo. 6GB and 6AS reluctantly dragged themselves off to work leaving the band to 6BO, 6FC and 6LM. Can't remember if 6RK was on the band that day or not. I fancy he was and made quite a few contacts. On this same day (28th Dec.) the band opened for half an hour to VK5 at 6.30 p.m. when 6GB, 6BO and 6AS worked 5QR, 5HD and 5MK, who were the only stations operating apparently. Signals were very good during this short break.

Saturday, 30th Dec. at 2 p.m. saw an opening for approximately an hour when 6GB and 6LM worked into VK2 and VK5. At this time, 6RK was busy making some repairs to his beam, which was airborne again in time for Roger to work 2GU before the band faded out. 6AS likewise missed out being busy taking some "new year nourishment."

The following morning at 0900 there was a further break through to VK2 when 2ADT, 2ABC, 2WJ, 2XI, 2OS and a couple of others were worked by 6GB, 6RK and 6AS. Signals were rather patchy on this occasion although 2ADT peaked at S8 for a while. At 1010 the band closed up. During the evening at 2025, 6GB worked 3IM for a few minutes, long enough to exchange numbers. 6AS was answered by an unidentified station on m.c.w. Signals went out before any contact being made.

A surprise opening occurred to VK3 and VK5 on the second of January at 2220, and lasting until just after midnight. 2JU, who paved the way, 5QR and 2XI were worked by 6GB and 6AS. I think 6GB also worked 2OS on this occasion. 6HR made contact with 5QR on c.w. On Thursday, 4th, 6LM who was on holidays, had a nice break-through to VK5 during the forenoon.

No news from 6WG or 6DW as to how the DX has been with them, but it can be safely said that both Wally and Don will have had plenty of openings. To those stations in the metropolitan area, six mx. proved both tantalising and unpredictable, but well worthwhile the time being spent tuning and waiting for things to break. Incidentally 6GS (Harvey) worked eight 2s, and 5s during those openings detailed above, 6BO made 68 contacts from home location and 20 while portable, 6GB 41 contacts, 6RK between 20 and 30, 6FC no details, 6AS 16 contacts, 6LM about 12 I think. Everyone is wondering if the band will last after the 7th of January this year.

50 Mc. W.A.S.

Call	Certificate Number	Additional Countries
VK5LC	1	
VK4RY	2	2
VK6DW	3	
VK4HR	4	1
VK5PO	5	1
VK3RR	6	1
VK3HT	7	
VK1ABC	8	
VK2YW	9	
VK2AEZ	10	1

144 Mc. DOINGS OF THE MONTH

New South Wales—New stations heard on the band are 2FD Wahroonga, 2FM QTH unknown, 2KS Yagoona, 2AX Bondi. As yet, gear at these stations is simple, but good signals are resulting. 2ADT has on several occasions been romping in in Sydney. 2RU Gosford has been working cross band with 2WJ, 2MQ, 2ABZ and 2ANF. 2ABZ has finally vacated the washhouse and is installed in a brand new shack—name belong him, "House Wireless" master? 2HO playing with beam inside the shack and putting out a good signal with same. 2PD is a consistent station on 144 and is often heard late at night. 2YM says his gear has cobwebs on it—now has new A40 and very happy about it.

2MQ is still looking forward to a VK3 contact and is improving his gear accordingly. His cascode converter receiver currently on loan at this QTH performs extremely well. For the benefit of VK3 and VK7 stations, 2MQ is re-broadcasting the 2WI Sunday morning broadcasts at 11 a.m. on 144 Mc. exact with 100 watts and 16 elements firing in a southerly direction. At the conclusion of the broadcast a careful listening check is made on the band. VK3 stations operating 50 Mc. and also having suitable 144 Mc. gear hope to try 144 to Interstate during 50 Mc. openings, so when the 50 Mc. band opens up warm up the 144 gear and maybe we'll crack it yet.

2GA Ettalong heard on 50 Mc. working some of the Sydney stations cross band from 144. It seems John has a good 144 Mc. path to Sydney—how's the 144 tx. coming along John? 2AST has mixrated to Gosford and finds he can work Cessnock on 144. He hopes to be able to work Sydney also, but may have to improve his gear. 2AWZ minus beam at present, but is heard occasionally on the band. 2DF has excellent f.m. signal and is still trying to talk some of the boys into putting discriminators in their rx. 2XO is back on the band after quite a long silence. 2LZ heard putting in strong signal from the Blue Mountains.

2AH experimenting with series phased arrays and getting good results. Now has a linear tank circuit hooked up to EFP51/QJ0 combination which makes an excellent rx. with low noise. 2AYP has acquired a BC733D rx. which he hopes to get going on the band along with an S29B tx. 2QU, Canberra, reports his 144 Mc. rx. complete but not yet on the band.

— • • • —

A TECHNICAL TIP

If you possess one of those Command Receivers covering from 3 to 6 Mc., that means you have on hand a good little receiver for 80. Don't be tempted to pull condenser gang rotor plates out in order to get to 40—you can get there that way, but can kiss 80 goodby. If you take out the plug-in coil unit from underneath the chassis and remove just two turns only from each of the three grid coils, the receiver will then cover from around 3.45 to 7.3 Mc. Of course, the calibrated dial will no longer mean what it says, but a card scale cemented thereon and a spot of home calibration, and you have a nice little two-band receiver.

Now, if you like to use a crystal converter for 20 (and maybe 10) ahead of it, you have a three or four band receiver. Only thing is the i.f. band-pass is not so narrow, but there are worse things than that anyway. An 8 Mc. crystal in the converter will look after 10 metres, and a little i.f. width is appropriate for that band.

That receiver can go a step further yet. If you like to apply a converter with crystal at 7700 Kc., you can cover the 6 metre band in the receiver tuning range. It can be a sort of Paddy's Market Collins type outfit. I forgot to mention, for the 20 metre converter you will need a crystal at 5900 Kc.

—Don Knock, VK2NO.

17th A.R.R.L. INTERNATIONAL DX COMPETITION

C.W.: Feb. 9-11 and March 9-11; Phone: Feb. 16-18 and March 16-18

RULES

1. **Eligibility.**—Amateurs operating fixed Amateur Stations in any and all parts of the world are invited to participate.

2. **Object.**—Amateurs in the continental U.S. and Canada will try to work as many Amateur Stations in other parts of the world as possible under the rules and during the contest periods.

3. **Conditions of Entry.**—Each entrant agrees to be bound by the provisions of this announcement, the regulations of his licensing authority, and the decisions of the A.R.R.L. Award Committee.

4. **Entry Classifications.**—Entry may be made in either or both the phone or c.w. sections; c.w. scores are independent of voice scores. Entries will be further classified as single- or multiple-operator stations. Single-operator stations are those at which one person performs all the operating functions. Multiple-operator stations are those obtaining assistance, such as from "spotting" or relief operators, or in keeping the station log and records.

5. **Contest Periods.**—There are four week-ends, each 48 hours long; two for phone work and two for c.w. The c.w. section starts at 2400 G.C.T., Friday, February 9 and Friday, March 9, ends 2400 G.C.T., Sunday, February 11 and Sunday, March 11. Phone section starts at 2400 G.C.T. Friday, February 16 and Friday March 16, ends 2400 G.C.T., Sunday, February 18 and Sunday, March 18.

6. **Valid Contacts.**—In the phone section, all claimed credits must be made voice-to-voice. In the telegraph section, only c.w.-c.w. contacts count. Crossband contacts may not be counted.

7. **Exchanges.**—Each participating operator will use three figures to represent the approximate transmitter power input. C.w. contestants will exchange six-figure numbers, each consisting of an RST report plus the three "power" numbers. (Examples are given in the sample log.) Phone contestants will exchange five-figure numbers, each consisting of a Readability-Strength report plus the three "power" numbers. If the input power varies considerably on different bands, the "power" number should be changed accordingly.

8. **Scoring.**—(a) **Points:** 1 point is earned by a W (K) or VE/VO station upon receiving acknowledgment of a number sent, and 2 points upon acknowledging a number received. Two points are earned by any other station upon receiving acknowledgment of a number sent, and 1 point upon acknowledging a number received.

(b) **Final Score:** W (K) and VE/VO stations multiply total points earned under Rule 8(a) by the number of countries worked on one band plus the number of countries worked on each other band. All other stations multiply total points earned under Rule 8(a) by the sum of the number of W (K) and VE/VO licensing areas worked on one band plus the number of W (K) and VE/VO licensing areas worked on each other band.

Countries will be those on the A.R.R.L. Countries List. There are 19 licensing areas: 10 in the United States, 9 in Canada (VO, VE1-VE8).

9. **Repeat Contacts.**—The same station may be worked again for additional points if the contact is made on a different frequency band. The same station may be worked again on the same band if the complete exchange for a total of three points was not made during the original contact on that band.

10. **Quotas.**—The maximum number of points per country per band which may be earned by W (K) stations in the **c.w. section** is 12, and contacts made on the same band with the same country after the quota is filled will not count. Thus complete exchanges with four stations in one country on one band fill the band quota for that country. The maximum number of points per country per band which may be earned by VE/VO stations in the **c.w. section** is 18, and contacts made on the same band with the same country after the quota is filled will not count. Exchanges with six stations in one country on one band are thus permitted Canadian participants. There is **no quota** for stations in the c.w. section **outside** of the U.S. and Canada. There is **no quota for any** station in the phone section.

11. **Reporting.**—Contest work must be reported as shown in the sample form. Each entry must include the signed statement as shown in that example. Contest reports must be mailed no later than April 20, 1951, to be eligible for "QST" listing and awards. All DX Contest reports become the property of the American Radio Relay League. No contest reports can be returned.

12. **Awards.**—To document the performance of participants in the Seventeenth A.R.R.L. International DX Competition, a full report will be carried in "QST." In addition, special recognition will be made as follows:—

(a) Special certificates will be awarded to the phone and to the c.w. winners in each country (as shown in the A.R.R.L. Countries List) and in each of the 72 U.S. and Canadian A.R.R.L. sections from which valid entries are received. Only single-operator stations will be eligible for these awards.

(b) A suitable certificate will be awarded to the operator making the highest single-operator phone score in each A.R.R.L.-affiliated club, provided the Club Secretary submits a listing of a minimum of three phone entries by bona fide resident members of such club, and provided further that these scores are confirmed by receipt at A.R.R.L. headquarters of the individual contest logs from such members. The highest single-operator c.w. scorer in each club will be awarded a certificate under the same conditions.

(c) A.R.R.L. will award a gavel to the affiliated club submitting the greatest aggregate phone and c.w. score by bona fide resident club members, whether single- or multiple-operator entries, provided such scores are confirmed by receipt at A.R.R.L. headquarters of the individual contest logs from such members.

13. **Judges.**—All entries will be passed upon by the A.R.R.L. Award Committee, whose decisions will be final. The Committee will void or adjust entries as its interpretation of these rules may require.

14. **Disqualifications.** Off frequency operation (as confirmed by a single F.C.C. citation or advisory notice or two A.R.R.L. accredited official observer measurements) will disqualify. Low tone reports in logs will also be considered by the A.R.R.L. Award Committee as grounds for disqualification.

SUMMARY, 17th A.R.R.L. INTERNATIONAL DX COMPETITION

... Entry Call..... Country.....

Name ... Address ...

Transmitter Tubes ...

Receiver..... Antenna(s) ...
(Logs from foreign countries show number of U.S.A. and Canadian call areas worked.)

Bands	3.5 Mc	7 Mc	14 Mc.	21 Mc.	28 Mc	Total
No. Entries QSOed	1		4	3	*8	
Number of Contacts						15

Number of different Countries Worked .....

Number of Hours of Station Operation ..... .

Assist. Person(s) Name(s) or Call(s)..... .
45 8 300

..... X ..... equals ..... .
(Points) (Multiplier) Final Score

I certify, on my honor, that I have observed all competition rules as well as all regulations established for Amateur Radio in my country, and that my report is correct and true to the best of my belief. I agree to be bound by the decisions of the A.R.R.L. Award Committee.

.....Operator's Signature

* Figure in this box is multiplier.

Sample of summary sheet that must accompany all reports.

LOG, 17th A.R.R.L. INTERNATIONAL DX COMPETITION

Sheet..1..of..1.. Call..... A.R.R.L. Section..... or Country.....

Date & Time	Station Worked	Country	Record of New Countries for Each Band					Serial Numbers		Points
			3.5	7	14	21	28	Sent	Rcvd.	
Feb. 17										
0005 GCT	VP9E	Bermuda			1			56375	57080	2
Feb. 18										
1300	PA0GN	Netherlands					1	58375	47075	2
1306	G6CL	England					2	58376	46150	2
1345	PA0RA	Netherlands					2	56373	59080	2
2080	LU7AZ	Argentina					3	58376	57750	3
2310	VP9X	Bermuda			1			57500	56059	2
March 17										
1020	ZL1MR	New Zealand			2			58500	58075	2
1035	VK2TI	Australia	1					47500	46100	3
1105	VK2RA	Australia	1					46500	45100	3
1421	PA0LQ	Netherlands					2	46375	57100	3
March 18										
0925	TF3EA	Iceland			2			57500	57050	2
1245	G3MI	England					3		46125	3
1255	G3KP	England					3	56375	57100	6
1350	G3MI	England					3	57375		1
1430	G5BA	England					3	46375	55100	6
2320	KZ5AW	Canal Zone			4			58500	58500	2

Sample of report form that must be used by foreign c.w. and all phone participants.

SUBSCRIPTIONS

● Please pay your Subscriptions PROMPTLY when due. Failure to do so may result in the loss of valuable issues of "Amateur Radio." High costs of production make it necessary to limit the number of extra copies printed each month.

FEDERAL, QSL, and DIVISIONAL NOTES

Federal President: W. R. GRONOW (VK3WG); Federal Secretary: G. M. HULL (VK3ZS), Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

President.—J. Corbin, VK2YC.
Secretary.—David H. Duff (VK2EO), Box 1734 G.P.O., Sydney.
Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.
Divisional Sub-Editor.—A. C. Pearce, VK2AHB, 131A Balmain Rd., Leichhardt, N.S.W.
Zone Correspondents.—Nth. Coast & Tablelands: J. M. Retallick, VK2XO, Raleigh; Newcastle: H. Whyte, VK2AHA, Vale St., Birmingham Gardens, Newcastle; Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: W. H. Stitt, VK2WH, Cumbijowa, Forbes; South Coast and Southern: R. H. Rayner, VK2DO, 42 Pettit St., Yass; Western Suburbs: A. C. Pearce, VK2AHB, 131A Balmain Rd., Leichhardt, Eastern Suburbs: D. B. Knock, VK2NO, 45 Yanko Avenue, Waverley, North Sydney: L. D. Cuffe, VK2AM, 779 Military Rd., Mosman; St. George: J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton; South Sydney: V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

President.—O. S. C. Semmens, VK3GS.
Secretary.—C. Dyer (VK3DY), 19 Collington Ave., Brighton (XA 6326).
Administrative Secretary.—Mrs. S. May, Law Court Chambers, 191 Queen St., Melbourne, C.1.
Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.
Zone Correspondents.—Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: K. O'Rorke, VK3AKR, Killigrew, Westmere; North Eastern: T. K. Tennant, 18 Harold St., Shepparton; Far North Western: M. Folie, 101 Lemon Ave., Mildura; Eastern: S. O. Kellas, VK3AHK, Tinambra; North Western: C. Case, VK3ACE, Cumming Ave., Birchip.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7195 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST, simultaneously on 3560 and 7196 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7165 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours E.S.T. simultaneously on 3750 Kc., 7196 Kc., 14343 Kc., 51.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7065 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4WI.

VK5WI.—Sundays, 1000 hours SAST, on 7196 Kc. Frequency checks are given by VK5DW by arrangement only on the 7 and 14 Mc. bands.

VK6WI.—Sundays, 0930 hours WAST, on 7195 Kc. No frequency checks available.

VK7WI.—Sundays at 1000 hours E.S.T. on 7196 Kc. No frequency checks are available.

QUEENSLAND

President.—J. F. Pickles, VK4FP.
Secretary.—W. L. Stevens, VK4TB, Box 638J, G.P.O., Brisbane.
Meeting Night.—Third Friday in each month at the I.R.E. Rooms, Wickham St., Valley.
Divisional Sub-Editor.—Clive J. Cooke, VK4CC Kuran Street, Chermside, Brisbane.

SOUTH AUSTRALIA

President. E. A. Barbier, VK5MD.
Secretary.—G. M. Bowen, VK5XU, Box 1234K, G.P.O., Adelaide.
Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.
Divisional Sub-Editor.—W. W. Parsons, VK5PS, 433 Esplanade, Henley Beach.

WESTERN AUSTRALIA

President.—R. W. S. Hugo, VK6KW.
Secretary.—W. E. Conon, VK6AG, 7 Howard St., Perth.
Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.
Meeting Night.—Third Tuesday of each month.
Divisional Sub-Editor.—Also A. Smith, VK6AS, 75 Weston St., Carlisle, Western Australia.

TASMANIA

President.—J. Brown, VK7BJ.
Secretary.—R. D. O'May, VK7OM, Box 371B, G.P.O., Hobart.
Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.
Divisional Sub-Editor.—S. Excell (VK7SJ), 77 Molle Street, Hobart, Tasmania.
Northern Zone Correspondent.—R. H. Kilby, VK7RK, 5 Galvin Street, Launceston.

FEDERAL

ACTION TAKEN ON AGENDA ITEMS

During the year 1950 Federal Executive took action on the forty-two agenda items and the twelve general business items arising from the Federal Convention held in the rooms of the Victorian Division of the Institute during Easter.

The results of discussions between Federal Executive and the Postmaster-General's Department on the relevant agenda items were published in the Federal notes in the December issue of "A.R."

Whilst we were not successful in obtaining the Department's agreement to all your requests, we did receive a very good hearing from them and we feel sure that every transmitting Amateur will appreciate the co-operation of the Department with respect to those of the agenda items on which they acceded to your requests.

The action taken on the balance of the aforementioned agenda and general business items are listed for your interest.

Agenda Items

Agenda Item 1: Published in "Amateur Radio," June, 1950.
A.I. 3: Overprint spares when called for.
A.I. 4: Awaiting reply from the I.A.R.U.
A.I. 5: Motion lost.
A.I. 6: Entered in Federal policy book; copy forwarded to N.Z.A.R.T., copy filed for the Federal Contest Committee.
A.I. 7: As per agenda item 6.
A.I. 8: as per agenda item 6.
A.I. 9: Rules amended and included in rules for National Field Day Contest published in November "A.R."
A.I. 10: Awaiting reply from the I.A.R.U.
A.I. 11: Decision published in "A.R.," June, 1950, and the N.Z.A.R.T. informed.
A.I. 11a: Motion lost.
A.I. 12: Withdrawn by Queensland delegate at Convention.
A.I. 13: Motion lost.
A.I. 14: 1950 R.D. Rules conformed to this item.
A.I. 15: Rules published in June "A.R." Divisions advised to fully publicise over Divisional Stations and at meetings. Rules amended as per item 9. Entered in Federal policy book.
A.I. 16: Awaiting reply from the I.A.R.U.
A.I. 17: Action complete at Convention.
A.I. 18: Entered in Federal policy book.

SILENT KEY

VK3ET

It is with deep regret that we record the passing of Herman Asmus, VK3ET, on 21st December.

A.I. 19: Victorian Division advised.
A.I. 20: Victorian Division advised.
A.I. 21: Withdrawn by Federal Executive.
A.I. 21a: To be included as agenda item for 1951 Convention.
A.I. 22: Published in September "A.R." for vote by Divisions.
A.I. 22a: Divisions late forwarding specimen forms. Specimen form being drafted at present time.
A.I. 22b: Final draft being prepared at present time.
A.I. 22c: Entered in Federal policy book. Note taken of VK6 comments for discussion at later date.
A.I. 23: Published in September and October "A.R." Vote by Federal Councillors yet to be taken.
A.I. 24: Copy of minutes forwarded each meeting.
A.I. 25: Matter still under discussion.
A.I. 26: Motion lost.

W.I.A. ACTIVITIES CALENDAR

Feb. 3-4: B.E.R.U. Contest—Phone.
Feb. 9-11: 17th A.R.R.L. Contest—C.W.
Feb. 16-18: 17th A.R.R.L. Contest—Phone.
Feb. 24-25: B.E.R.U. Contest—C.W.
Feb. 28: Convention Per-Capita due with F.E.; end of Fiscal Year of Divisions.
March 3-4: B.E.R.U. Contest—C.W.
Mar. 9-11: 17th A.R.R.L. Contest—C.W.
Mar. 16-18: 17th A.R.R.L. Contest—Phone.

A.I. 34: Meeting arranged with Australian Broadcasting Control Board, 14th December, 1950. Assurance given that when manufacturers submit specifications of proposed f.f. channels for television receivers that the Amateur point of view will be given every consideration. Federal Executive at present contacting the R.M.A.
A.I. 37: Motion lost.
A.I. 38: Item withdrawn by Victorian delegate.
A.I. 39: Entered in Federal policy book. Published in June "A.R."
A.I. 40: Federal Executive discussing proposed emergency signals at present time. Request for suggestions in December "A.R." brought reply from only one Division. Decisions will be published in early issue of the magazine.
A.I. 41: Publicised in June and July "A.R."
A.I. 42: Decision published in July "A.R."

General Business Items

General Business Item 1: Published in September and October "A.R." Vote of Federal Councillors yet to be taken.
G.B.I. 2: Discussed and determined at Convention.
G.B.I. 3: Copies complete with amendments arising out of 1950 Convention forwarded to each Federal Councillor.
G.B.I. 4: Motion withdrawn.
G.B.I. 5: Discussed at Convention.
G.B.I. 6: All Divisions signalled, N.S.W., Victoria and Tasmania only States who have formed committees to date.
G.B.I. 7: N.Z.A.R.T. reports results not available due to Contest Committee changing operatives and details of results being lost.
G.B.I. 8: Published in "A.R."
G.B.I. 9: Entered in Federal policy book and applied to all Federal Contest rules.
G.B.I. 10: VK2 rules submitted by N.S.W. Division amended to conform with Federal policy arising out of agenda items and published in December "A.R.," 1950. N.S.W. Contest Committee running contest on behalf of Federal Executive for 1951.
G.B.I. 11: R.S.G.B. advised to represent the W.I.A. at short notice. Results of convention published in R.S.G.B. Bulletin. Divisional Councillors requested to convey findings to members where applicable to VK interests.
G.B.I. 12: No action required. Councillors in possession of copies of Federal Convention minutes.

CONSULT YOUR DIVISIONAL COUNCILLOR

Federal Executive desire to stress to members the importance of speaking through their Divisional Councillor to Federal Executive on matters concerning requests to the Postmaster-General's Department. Of recent date it has been brought to the notice of Federal Executive that members have written direct to the Department, thereby embarrassing relationships between the Department and the Wireless Institute as a whole. **Please play the game!**

FORWARDING ADDRESS FOR CERTIFICATES

To avoid the necessary delay involved in forwarding cards claiming DX C.C. and W.A.S. 50 Mc., members are again requested to forward their verification cards DIRECT to the Federal DX C.C. Manager, G. I. Morris, Esq., 50 Eighth Street, Parkdale, Victoria.

R.A.A.F. ACTIVE RESERVE

In the January issue of "A.R.," Federal Executive published details of the R.A.A.F. Active Reserve for the interest of ex-service Amateurs and Amateurs generally, who may be interested in joining this branch of the services. Radio and electronic equipment plays a major part in modern defence, hence it is in this field that the licenced Amateur or interested newcomer can take an active part in the event of a national emergency.

We hope—everybody hopes—there will never be another national emergency, but at the same time we must be prepared to take our part if such an event did take place. In this regard, we, as a body of technically trained men in the electronic field, could render immediate national assistance—more so if we were familiar with the type of equipment used for defence. The R.A.A.F. have offered us this opportunity in the formation of an "Active Reserve" which makes it possible for us to study the maintenance and operation of this modern defence equipment under actual operating conditions, and further, as members of the Royal Australian Air Force.

We are not called upon to enlist full-time in the Service, although we can if we would like to choose this mode of living as a career. We are not even obliged to attend for training for any definite period; we can attend the appropriate Air Force establishment when we have a few spare hours, days, or weeks available to us. We can expect to be paid for the time we spend under training up to, and including, 26 days, at the normal R.A.A.F rates of pay. If, for our own interest, we would like to spend time there in excess of the 26 paid days we can do so without pay—for instance, odd week-ends when we may have no other arrangements to fulfil.

We must not lose sight of the fact, too, that we are not obliged to train ourselves in the electronic field if we do not desire to do so; under the R.A.A.F. Active Reserve scheme we can train ourselves in any other field encompassed by the activities of the Royal Australian Air Force. This means we can apply our normal daily work knowledge under Service conditions, if we feel that way inclined.

If a national emergency occurred many of us would be called up for training anyway, so let us give due consideration to this opportunity and train ourselves for an immediate appointment in the R.A.A.F. where we can use our technical knowledge to the best advantage of our country if necessary.

Further and more complete details of the Active Reserve can be obtained from the following staff officers in charge of Reserve Training:—

Squadron Leader Foote, Staff Officer, Radio, North Eastern Area Hqrs., TOWNSVILLE, QLD.
Squadron Leader C. Steel, Staff Officer, Radio, Southern Area Hqrs., Albert Park Barracks, MELBOURNE, S.C.3.
Squadron Leader S. J. Nichol, A.T.C., HOBART, TASMANIA.
Flight Lieutenant R. J. Shadforth, Staff Officer, Radio, Western Area Hqrs., PEARCE, W.A.
Flight Lieutenant A. F. Crilley, Staff Officer, Radio, Eastern Area Hqrs., PENRITH, N.S.W.
Flight Lieutenant R. B. Cocks, No. 34 Squadron, MALLALA, S.A.

These officers will be only too pleased to assist members of the Wireless Institute of Australia in obtaining further details of this Active Reserve scheme. Any members who may have made up their minds to join the Reserve can approach the following recruiting offices for enlistment:—

New South Wales: R.A.A.F. Recruiting Officer, Room 9, Floor 6, Dymock's Building, 426 George St., Sydney. Phone, MA 6041.
Victoria: R.A.A.F. Recruiting Officer, Reliance House, 301-311 Flinders Lane, Melbourne, C.1. Phone: MB 3016.
Queensland: R.A.A.F. Recruiting Officer, Scottish Union House, 127 Eagle St., Brisbane. Phone: B 6277.
South Australia: R.A.A.F. Recruiting Officer, Cresco Buildings, North Terrace, Adelaide. Phone Central 7787.
Western Australia: R.A.A.F. Recruiting Officer, A.N.A. House, St. George's Terrace, Perth. Phone B 7259.
Tasmania: R.A.A.F. Recruiting Officer, Anglesea Barracks, Davey St., Hobart. Phone: Hobart 7153.

You are under no obligation to enlist so if you are interested in the possibilities of the knowledge you can gain do not hesitate to approach the Recruiting Officer in your State and have a friendly chat with him.

Remember the Boy Scouts' Motto: "Be Prepared."

LIST OF AMATEUR RADIO STATIONS IN THE PHILIPPINES AS AT 1st MAY, 1950

The Secretary (Elpidio G. De Castro) of the Philippine Amateur Radio Association, 931 R. Hidalgo Street, Quiapo, Manila, has forwarded the following list of DU stations licenced by the Department of Commerce and Industry, Radio Control Division, Manila.

DU1AL—Alejandro Legarda, 181 San Rafael St., San Miguel, Manila
DU1AP—Antonio Pertierra, Nasugbu, Batangas.
DU1AQ—Victor V. Palenzuela, 618 Santa Mesa Boulevard, Manila.
DU1AS—Alfredo Santos, Nasugbu, Batangas.
DU1AW—Gregorio S. Orbeta, 1870 Int. 1 San Andres St., Malate, Manila.
DU1CE—Elodoro M. Claro, 202 Requessens, Sta. Cruz, Manila
DU1CIT—Tranquilino Navarro (Trustee), 544 P. Paredes, Manila.
DU1DO—Pedro A. Aguinaldo, Jr., 2857 Orquieta Street, Manila.
DU1DR—S. Hilario Escudero, 320 Vision, Sta. Cruz, Manila.
DU1FC—Fred A. Carino, 1496 Pepin Street, Sampaloc, Manila.
DU1FH—Luis A. Fernandez, 1 First Street, New Manila, Quezon City.
DU1FIT—Arturo del Pan (Trustee), F.E.A.T.I. Institute of Technology, Paterno Building, Manila.
DU1FM—Felix Martinez, Tuntog, Malabon, Rizal.
DU1GT—Gregorio Trinidad, 60 Park Avenue, Rizal City.
DU1JH—Juan A. Herrera, Jr., 15 Hyacinth St., Quezon City.

DU1JI—Jorge R. Illenberger, 5 Domingo Santiago Street Sampaloc, Manila.
DU1JS—Joaquin Santarromana, 36 Bernabe St., Rizal City.
DU1MC—Miguel J A. Contreras, Binakayan, Kawit, Cavite.
DU1NL—Nunilon Lim, 2396 Herran St., Manila.
DU1RTL—Elpidio C. De Castro, 231 R. Hidalgo Street, Manila.
DU1TK—Teodoro Kalaw, Jr., 54 Valenzuela St., San Juan, Rizal.
DU1TP—Antonio S. de la Paz, Bo. Kapasigua, Pasig, Rizal
DU1VP—Venancio Pineda, 87 Blumentritt St., Mandaluyong, Rizal
DU1VVS—Jesus F. Escalante, 136 P Burgos St., Cavite City
DU1WP—Wenceslao Pangan, Central Azucarera Don Pedro, Nasugbu, Batangas.
DU3AL—Dr. Alejandro Legarda, Evangelista Apartments, Baguio, Mountain Province.
DU6ORE—Delfin Arbiz (Trustee), Central Radio & Electronic Sch., Pisaoleta Gay, Iloilo City.
DU6DA—Dionisio Arguelles, Jr., Corner Herras & Zamora Sts., Plaza Libertad, Iloilo City.
DU6IV—Ismael Vito, Corner Zamora & Herras Sts., Iloilo City
DU6JI—Julio Illenberger, Southern Institute and Radio Electronics, P.O. Box 392, Iloilo
DU7AHS—Gaudioso D. Ocol (Trustee), Abellana High School, Cebu City
DU7AJ—Antonio Jayme, 43 Lacson St., Bacolod City.
DU7CIT—Eulogio C. Bonsukan (Trustee), Cebu Institute of Technology, Cebu City.
DU7EA—Eliseo L. Araneta, Silliman University, Dumaguete City.
DU7EC—Enrique del Castillo, 80 San Sebastian St., Bacolod City
DU7ER—Enrique Rodriguez, Corner P. del Rosario and Pelaez Sts., Cebu City.
DU7IM—Ignacio Montenegro, Bais, Oriental Negros.
DU9JO—Justino Ongchua, Villaeron St., Cotabato, Cotabato.

CHANGE OF ADDRESS

W.I.A. members are requested to promptly notify any change of address to their Divisional Secretary, not direct to "Amateur Radio."

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

The address of the Israel Amateur Radio Club is Box 4099, Tel Aviv, Israel.

Jack Elliott, ZL3CO, advises that the itinerary of his proposed trip to Australia in 1951 is now taking shape and he expects to arrive here about March next. It is many years since Jack last visited this country and old friends will be glad to meet him again. Jack is extremely active on 14 Mc. c.w.

Max Rieper, VK9MR, is again back on the air with a temporary rig after an absence of a few weeks due to the continued breaking down of power trannies. A new tranny for the 810 is expected shortly and Max hopes for much longer life from this one. During the period off the air, Max has re-built his SX28.

The QTH of ZC4TF is 401316 Sgt. Tyler, F. W., 2 Wireless Regiment, Royal Signals, M.E.L.F.3.

Victorian Hams were shocked to learn of the sudden death of Herman Annus, VK3ET, on 21st December. Colleagues at the C.T.O., Melbourne were deeply shocked at Herman's decease as he was on duty up to seven hours before his death. Few Hams were possessed of the talents and ability that Herman displayed. Among his many qualifications were those of a first-class photographer in all its ramifications, a telegraphist of outstanding ability, a deep knowledge of radio, and in his younger days, a tennis player well above the average. In his early life Herman spent many years in China and travelled extensively in that country. Amateur Radio is the poorer by his passing.

W.A.C. and W.B.E. recommendations made during 1950 were as follows: W.B.E.—2WD, 4RW and 5RX, W.A.C.—G.W. 2TH, 2ANO, 2VW, 3ARV, 5PS, 5XK, 6EU; Phone: 2AQD, 2AMV, 2TH, 3AGV, 3ADF, 4FJ, 4ZB, 5MS, 5PS, 6AS, 6EL and 6ND.

The FK8 gang have decided to establish a QSL Bureau for inward cards with address as Box 104, Noumea, New Caledonia.

Andre Baillet, FW8AA, of Wallis Islands, has scarcely found time as yet for Ham Radio, his only contact so far being on 7 Mc. with FK8AC. Possibly after the loneliness of the tropic islands overtakes Andre he will become more active.

Eric Trebilcock, B.E.R.S.195, with his usual bunch of interesting news, corrects the QTH of VR1C as published in these notes to E. J. Victor, U.S.C.G.L.T.S., Unit 84, Navy 824, F.P.O., San Francisco, Calif. Eric claims he has heard 218 countries with 190 of them confirmed. Latest confirmations received are OY2IGO and AC4YN, the latter after four years. Nice ones heard during December in the early mornings are VT1DF Kuwait, and ZS7D.

A circular letter dated 7th December, 1950, is to hand from the C.A.V.—the national society of the Czechoslovakian Amateurs—giving reasons for the withdrawal of that body from membership in the I.A.R.U. According to the circular the C.A.V forwarded in July, 1950, an appeal to the I.A.R.U. requesting a vote to be taken by all member societies as to whether they would associate themselves with the Stockholm Peace Appeal of the World Congress of Partisans of Peace. The appeal was rejected by the I.A.R.U. This is the main reason for the withdrawal of the C.A.V. from the I.A.R.U.

The new address of the Eire QSL Bureau is 97 St. Stephens Green, Dublin, Republic of Ireland.

A few cards from VK1RF have come to hand. This shows his home QTH as being R. J. Frost, 3 Nevorie Crescent, Maroubra, N.S.W.

NEW SOUTH WALES

PROGRAMME FOR NORTH COAST ZONE EASTER CONVENTION

Friday, 23rd March, 1951

Registration at "Do Me" all day.

Hotel Bookings: Deposit £1/10/- per person, to be forwarded with written application to Ocean View Hotel. This accommodation is reserved for Hams who are bringing their wives.

Shacks: Available for bunking purposes only. Bring your own blankets. All meals to be obtained in the town refreshment rooms. If you have a caravan or camp gear, bring it along and insure a good holiday.

Saturday, 24th March, 1951

10 a.m. to 1 p.m.: Register at the "Do Me" and receive Lucky Numbers. Registration Fee, 10/-. You can register on Friday and so help the committee. Ladies' lucky number prize, beautiful hand-crocheted Duchess Set, donated by John Hall. Gent's lucky number prize, 500 QSL Cards, donated by Ern Ashley.

2 p.m.: General Rag-Chew and introductions.
2.30 p.m.: Test Emission of 18 watter (bring your own receiver).
3 p.m. to 6 p.m.: G. Challender Remembrance Trophy (cup, value £20). 1st prize, replica of cup (donated by the W.I.A., N.S.W. Division) and £2 cash, donated by Dr. Hewitt. 2nd prize, Scope Solder Iron, donated by H. Powell.

Contest Conditions: (1) Obtain P.M.G. permission to operate portable. (2) Transmit within 3 mile radius of Urunga. (3) No power limit. (4) 40 metre band only. (5) Power must not be drawn from town supply. (6) Power input handicap.

Saturday Night: Picture entertainment, cards, dancing and fishing as you so desire. A transmitter will be on the air to make contact with the gang. Fishing Contest starts at 6 p.m. and finishes at 9 a.m. on Sunday. Special prize of £5 for catching "Big Sam."

Sunday, 25th March, 1951

9.30 a.m.: World's champion yabbi catching competition. Launch parties to leave the "Wy Worrie" shack promptly for the yabbi grounds. 1st prize, cup donated by Hammond and Wheatley. Continue launch trip and return at noon.

1.45 p.m.: 144 Mc. hidden transmitter competition. Trophy, silver cup, value £15, donated by Gleeson Bros. 1st Prize, £5 cash donated by Norm Moody, and replica of cup, donated by W.I.A. (N.S.W. Division). 2nd prize, £1/1/- donated by Hart Wall. Transmitter will be hidden within three miles of Urunga.

2.30 p.m.: Ladies to assemble at "Do Me" shack for special competitions and prizes and to meet Mr. and Mrs. Percy Sara and family and their world renowned quads at 4.30 p.m.

3 to 4 p.m.: "Urunga Scramble" competition. Any gear, any band, any power; to work the most stations within the hour. 1st Prize, 500 QSL Cards donated by E. Ashley. 2nd prize, 807.

7.30 p.m.: School of Arts Hall. (a) Welcome by Bellingen Shire President, Mr. Mark Goldstein, supported by Mr. Chas. Eddy, Pres. Urunga Progress Assn. (b) Presentation of prizes. (c) Movie films by Mr. T. Hamey. (d) Concert presented by Amateurs. Bring your music and instruments.

[illegible] SUBURBIA

2AYE put in a long day on Christmas Day, exchanging festive greetings far and wide on 40 phone. If any other xone possesses a member with a fraction of the energy possessed by Dave, this scribe has yet to hear him in action. 2VF heard using screen grid modulation with good results on 20. 2AZH has returned to 20 after an absence of some weeks and is putting out very nice quality speech. Haven't heard your cobber, 2HP, for some time OM.

Heard a funny one about that "Wah Wah" Asiatic phone that moves about inside 20. A certain well known ZL, who is engineer in charge of a big radio transmitting establishment, got a bit fed up with the encroachment of the "Wah Wah" department on Amateur territory. He put the biggest of his carriers on 20 and gradually edged it up on "Wah Wah and Co." The latter shifted a bit after vainly trying to work through the very solid beat—and the ZL outfit followed. Another move, and the ZL followed again. And so the shemozzle continued until friend ZL had shouldered the interlopers outside the band. The episode is vouched for by 2AGW who has just been over in ZL. Nice work, but the crazy laundry department is back inside the band again! By the way, for the benefit of those who don't know, ZLs are now permitted phone from 14150 to 14400 Kc. Heard also among the commercial interlopers on 20 a couple of Russians signing RJSf and RZL, with notes like a snarling wolf or something.

For the benefit of those who like working Gs on 20 phone. Ted Ironmonger (ex-G8PO) is on the air with a radio club station in the north of G-land, signing G3GZO. H.M.S. "Ariel" is the address. A visitor to the writer's station was 3EE, well known 20 mx. DX phone man. In a car jaunt to Bankstown, Cliff was quite disturbed that he didn't spot a solitary Amateur beam array. He reckons we all use underground beams in N.S.W. 2KT, who until recently lived in Waverley, is now heard from a western suburbs location. Lay Cranch, 2XC, ex 3LW, making plans to get back on the air somewhere in the Watson's Bay area. After having stressed that 2AIG is an essentially c.w. station, Ray goes and breaks out with a gilt-edged phone transmission, emanating from a nice new crystal mike instead of the old P.M.G. carbon kind.

After a period of inactivity, 2ANH is back on 20 mx. phone, looking for DX, which of course, isn't too prolific just now. Another xonite to leave the area is 2ARE, who is now putting out a weak signal (over here) in the Castlecrag region. Heard 2ASE on 80 phone, amid the barrage of QRN.

Finally, an ultimatum. If, as is undoubtedly the case, xonites DO read the notes about their area, then they would surely not wish to see them discontinued. Unless Amateurs in the area send along items of individual news, this kind of thing will simply peter out. If you want to keep the ball rolling, then drop a few lines about things to the xone correspondent at the address given. Meanwhile, all the best for 1951, and may our Amateur activities continue in a tranquil world.

VALE VK2ZN

The late W. M. Cottrell ("Bill") was one of the best experimenters and friends that Amateur Radio has seen. He was always doing startling things and was free with valuable information when required by others, by which means he made a host of friends. His explanation of seemingly difficult problems was of the simplest nature, showing that he had a very good grasp of the fundamentals of his main hobby which eventually became his profession.

During the first World War (1917) he communicated over a distance of about one mile with a friend, using a buzzer and the aid of the water pipe system. Thinking that this might be of importance to the war effort they asked for permission to carry on with their experiments to this end. They were forbidden, as any form of secret communication was forbidden.

In the early 1920s, in conjunction with Ray Alsop at Coogee 2WE, speech was transmitted and received. Apart from a short period at New System Telephones, he and Ray Alsop worked together.

In 1924 from his own Amateur Station (OA2ZN) in Judd Street, Randwick, a programme of dance music was transmitted to the Randwick Town Hall for a Ball being held there. This was the first attempt at such a thing. Also about this time, along with Mr. Pike of Greenwich, American Amateurs were received on 300 metres (morse signals).

In 1926, again in conjunction with Ray Alsop. "Bill" assisted in building and maintaining the first broadcasting station in Sydney, i.e., 2BS, which after operating about a month became 2BL. This transmitter ran reliably on top of the Smith Weekly Building until it was replaced by a new transmitter at Coogee which incorporated the best ideas of the day. This latter transmitter was the one taken over by the P.M.G. Department when they acquired 2BL and 2FC.

During this long stay with 2BL, "Bill" was presented with a watch by Philips, of Eindhoven, Holland, for certain work carried out in conjunction with the short-wave transmitter PCJ.

Along with the above activities, "Bill" always found time for his Amateur activities and was one of the most constant Hams on the air and although he always used low power in the transmitter, he relied on a good aerial and receiver to achieve his results. This applied even in latter years, when he operated on the 80 Mc. band.

He was engineer in charge of b.c. station 2CH from commencement of operation until taken over by A.W.A. and later was transferred to Radio Centre, Pennant Hills, VIS, controlled by O.T.C. Transferred to O.T.C. Beam Services Ballan and remained there until his death in December. He was an active member of the Gladesville Radio Club, VK2ADY.

NORTH COAST AND TABLELANDS

2AGM at Byron Bay has just had five weeks in Brisbane Hospital, but was able to return home for Xmas. Olive lost no time in getting back on the air. 2RK active on 20, 40, 80. 2AS0 still waiting for his v.f.o. 2LH, 2ADE, 2UC working all States on 6 metres. 2AEU hopes to make a comeback with a new rig in the new year. 2AFF too busy for Ham Radio. 2ASF just obtained a new D104, Col has to look after his laurels now as he has 100 watt opposition a few doors away—2AHH. Noel putting out a good signal. 2PA and 2SH not very active due to Xmas business rush. 2AEY now in his new house and modern Ham—an 8 mx. signal. Bill with 2JC, 2BU, 2AGD, and 2APS spent Xmas and New Year at Urunga. They have been picking out spots to erect their gear for the 144 Mc. and 40 metre contest at the next Urunga Convention. 2DR spent Xmas in Sydney. 2WT still working the Gs the long way round on 20.—89 signals on the rhombic, Russ hopes to visit Sydney in the New Year. 2APS and 2JC using No. 11 portable at Urunga. 2OE now at new QTH at Maclean. Nothing heard of the Grafton gang—fishing having No. 1 priority with them.

2WQ just returned from his holiday in Sydney. 2ARY has been on the sick list and is spending Xmas with his people out Yass way. 2XO reports good signals from VK3, 5 and 6 on 6 mx. at Raleigh. 2AJB has left Coff's Harbour and will soon be heard from Kyogle, his new QTH. The Coff's gang will miss Len. Programmes for the Urunga W.I.A. North Coast Convention will be off the press before the end of January, anyone requiring a copy please contact 2XO—it will be a great week-end—Easter 1951.

HUNTER BRANCH

Ham activity during the month has been fairly quiet due to the fact that a number of the boys have been holidaying and celebrating. The December meeting of the Branch was again well attended, State President 2YC, Secretary 2EO and Councillors 2VW and 2AYE made the trip from Sydney, although their stay was short they seemed to enjoy themselves. It is very pleasing to see the Council taking such an interest in the Hunter Branch doings. After general business, a number of very nice pieces of equipment built by the boys was on show. Included in the collection was a very f.b. v.f.o. built by 2ZC, complete midget xmitter by 2AXM and signal generator by 2XT. It has been said in the big smoke that the Hunter boys really do make nice equipment.

Sect. 2BF was one of the few active stations during the holidays; Varley had a great time on 40 phone with his portable. Nil heard of our Pres. 2CS, must be enjoying the holidays. 2AGD had a great holiday with old timer, 2BU, up north motoring. 2ZC left at beginning of month for holidays at Forster in the caravan of course, took along the portable. 2FF also away early in the new year, Ern was fishing at Lemon Tree. We have a couple of new stations on in the Branch; Bill, 2AXM, an ex-ZL, is putting out a very solid signal on 40 phone using 807, doublet antenna. Ivan Shearman, 2AIS, is also on and had his first QSOs on 144 working Newcastle stations and Cessnock too. Another new Ham is 2AFX, Harry McPhee who works at b.c. station with 2ZO and 2AHA. Harry also has joined up and has a small rig on 40 using 6A6-6L6. Fellows please give these new chaps a call.

2ASJ still puts out a solid signal on 40. 2XT was a very popular man during the festive season, but found time to have a few QSOs on 40 in between. 2PT still only on 144, what is wrong with the lower frequencies, Allan? 2SA was heard from the "big smoke" with a terrific signal during the holidays. 2ZT has changed to phone on 40. 2DZ giving 20 a fling with the new beam. 2PA was a visitor there recently. 2PQ mainly on 40. 2KG returned from a great holiday in Queensland; Ken may get the rig finished now. 2ANA went bush for a few days and finished up at Nyngan; met up with 2QA, give you two guesses what they did. 2CW been working through the holidays; Bill has a very fine signal from the exciter only.

The 6 mx. boys have been having a field day every day of late; the band has been open consistently and 2BZ, 2ADS, 2OS and 2AHA have been making the most of it. Never heard the VKGs as loud as they were on Boxing Day—just like the VK5s, S9 plus! The Ross Hull V.H.F. Contest is certainly receiving much attention. 2XY still having lots of fun on 2 and 40 mx. 2AGY has big plans for the future and we should have some big news from him soon. 2CI had some long trips away recently, you should have a portable Gordon. Nil from 2LV, 2UF and 2NX. 2AAI flat out on 40, building and painting gear too. Think 2AFS got lost down Canberra way, may even have gone into Parliament. 2ON still very busy, but gets on 40 occasionally.

2ANG has been to a couple of meetings recently, so it looks as if Phil is getting interested again and may be on the air soon. 2FX is anxious to get going but is busy with the house. Up Maitland way things are quiet except for 2XQ and 2DQ on 80 phone. 2ANL on 6 chasing DX. 2TV also working 6's of 6 DX. Would like some news of 2JZ of Singleton. 2ANU and his QRP getting out well on 2, 5 and 40. We city blokes with AC power take off our hats to you Ken! I hate to think what we would work with a 6v. battery.

SOUTH COAST AND SOUTHERN

Activity during December was fairly good in this zone and a very prominent place is being taken by 2BQ, of Tumut. The call 2BQ was very well known many years ago and present holder is putting out a signal covering far and wide. 2APP seems to be settling into radio as I understand he has imported one of the famous "broken toenail" rotary beams. 2AEL active again from his new QTH at Young and the S meter here does another revolution further than it used to on his signal. 2AID and 2BW heard discussing 6 mx.—Stan no doubt by now has followed 2BW and constructed a grid dip meter. 2AOI active on 40 and he reckons 80 mx. offers good DX on occasions.

2TA, at Young, works 2WH on six, both are looking for 6 mx. contacts and have skeds at 1900-2000 daily. Haven't heard 2OW at Temora for donkeys' ages, guess hot wx has Gordon flat out on service work. 2ALS is on vacation at Manly (half his luck); every time I see him he has another Rx, latest is a weird type of dual-wave as used in the Army. No news of Monty 2JQ, guess he is QRL setting up the new home in Junee. My listening post, Reg George of Coota, is very thrilled about some s.w.l. cards he received lately. I guess without Reg's assistance, I just couldn't manage any notes at all. 2OY at Goulburn heard QSO 2ALS and Jack was very tickled to make QSO with the VK3 call, as his friend has the N.S.W. counterpart as it were.

2BO I see is listed as being in Goulburn, so no doubt we will hear more of him later. During December I visited Melbourne and met Dick Dowling in his place of work. Dick showed me that fair city from the highest spot in town. Met 3KR at Benalla and 3JK at Wang. For sale cheap, one only some officer job. No previous experience needed to handle this, any offers?

COALFIELDS AND LAKES

2ANU is a proud man these days, having a "junior op.," congrats OM. 2ANU still putting out fine QRP sig on 80 Mc., trying mikes and fixing telephones long way round. 2YU been cleaning tanks and work has kept him quiet, been on 80 only of late. 2JZ is on holidays. 2KZ active on 10 and 6 and pleased to find his beams weathered a recent storm. 2KF can be found anywhere, mainly 10, 6 and 2 claim him. 2ALR has made a re-appearance after a long silence, 40 and 20 will be the bands for the while. 2PZ having a few QSOs at Cronulla. 2ADT been very active and gave 80 Mc. DX contest a work out, was in a commanding position until the last few days when the power was cut off while a new line was being erected; nevertheless Jack may get there at the end; latest I heard, Jack had had over 270 Interstate and ZL contacts in the 80 Mc. openings. Heard 2AMU being called on 80. 2GA and 2KK are active on 6, but not heard here well, often hear 2RU working them, 2RU consistent on 60, too busy to work contest though. 2EH only on now and again from his batteries, hopes for AC soon. 2YL been working a few on 80 Mc. in the limited time, toying with ideas of a tower and living in hopes of getting a little more time in the near future. Both 2ADT and 2YL were favored by visit from 2AOA.

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VICTORIA

The January meeting of the Division was held at the rooms, 191 Queen St., Melbourne, on Wednesday, 10th January. The attendance was not large owing to the holidays and the very warm evening. In the absence of our President, Bill Treagear occupied the chair and declared the meeting opened at 2000 hours. The minutes of the previous meeting were read and received several items arising therefrom being again deferred to next meeting, as the mover of the motions was not present. Reports were given on the various sub-committees and the financial statement showed a good balance at the bank. Most important item of interest was the statement that the next Disposals hand-out will be held on Sunday, 11th February at Footscray.

In the general business it was decided that the Secretary and another member make enquiries from travel agencies and Government departments with a view of obtaining QSL cards for members. This is quite a good idea, and if it comes off should help to cut the cost of cards to members. Several members expressed their disappointment at the non-appearance of the QSL Manager but sickness and holidays upset the routine of the Manager. However, this position will be rectified at all future meetings. There being no further business the Chairman suggested that the meeting be closed and the boys have a general "natter" among themselves. The transmitter room was opened and members expressed their delight with the fine job that has been done on the equipment. The rooms were finally closed at 2300 hours. Next general meeting will be at the Radio School, Bowen St., Melbourne, on the first Wednesday in February.

The State Convention is scheduled to be held on 3rd and 4th February. The meeting place is at the V.R.I. Rooms, Flinders St., Melbourne, and a special request is made to ALL MEMBERS to be present as there are several items of urgency to be discussed. With the state of things now, it might be as well to act on the old proverb, "Unity is strength; United We Stand, Divided We Fall." How about the QRM on 20 and 40 mx. bands. So chaps, let's see you at this Convention.

3ARL has been an inmate of Heidelberg Hospital for some time, but is now on the road to recovery. 3YV was also an inmate of the above, but is now home again. Those two members spent their Xmas in bed—and no radio. Welcome to the Division 3GM (Ballarat) and 3ABJ (Greensborough). Several beams and rigs were struck with lightning during the storms in January. 3AJI seeing the sights of VK5. 3DY sailed forth to VK4. 3OS spent Xmas at Emerald. 3JO after the trout at Eildon Weir. 3VA running batteries down on his portable rig at Torquay. Wonders will never cease, fancy 3ALQ on 40 mx.! 3AWW playing with super modulation and how. 3OO has a beautiful signal on 20 and Eric is working the DX, f.b. OM. 3NZ is in New Zealand on holidays.

SOUTH WESTERN ZONE

3AKG soon shifting to new location, hope to hear more of you soon Kev. 3AGU on 40 quite a lot lately, worked Gordon working mobile with 6 ft. centre loaded whip. 3KX not very active, but heard occasionally on 20 and 10 mx. 3YE is expecting a shift from Colac, let's hope it's for promotion, Vern. 3HG busy with harvest and not active. 3AGD not as active as usual, but then summer time is the busy time for the boys in the country.

3II has been experimenting with mousetraps and string to short the spark plug on his pump engine; had a wire running from the spark plug to the tank and when the water rose and touched the wire, the pump stopped. The only catch was the QRN in Ham Receiver. 3ALC been busy with farm and emergency network; hasn't got a rig on Ham Bands at moment.

On the 13th and 14th January there was a v.h.f. field day in the vicinity of Mt. Buangor; more about it next month. 3BW recently received from G land a grid dip meter covering from h.c. band to about 300 Mc. 3AGU has received his W.A.C. Certificate. 3AMP shifting to St. Arnaud and will probably be a bit more active in the new location. 3RX been tearing about the country in a new car on a fishing expedition. 3NO still bowling over the DX on his QRP. 3AMH still hoping to get on 40 soon. Attention S.W. Zone members! Zone hook-up will be held in future on 80 mx. approx. 3.6 Mc. 3JA busy with harvest and cows.

3ABE has a 2 element 20 mx. beam up on his 30 ft. mast and pleased with results, has been working some DX using the beam. 3AJT active on 20 and went over to 6MK for his Xmas vacation. 3ALG put relays in the rig and finds operation OK; has worked a bit of DX on 40 mx. 3IC not active of late. 3WT has been tuning up his motor bike more than his rig lately. 3AKE finds 2 mx. a bit dead of a night just now. 3BU having contacts on the hand and started to revamp his TA12D. 3AOL having a spot of trouble lately, but still puts out a 80 sig. 3AIC heard mostly on c.w. in the evenings.

GEELONG AMATEUR RADIO CLUB

Members of the Geelong Amateur Radio Club met to conduct their fortnightly meeting. The evening was in the hands of 3WT who gave an interesting talk on xtal grinding and his experiences in the art. He displayed several xtals he had ground to different frequencies, together with different varieties of holders. At the next meeting which was the final one for 1950, a visitor was present, he was Mr. G. Burrows, 2AOP, who was nominated for membership. After the business, members enjoyed a Xmas Treat provided by the President of the Club, 3AJF. The Club re-opened on 3rd January, 1951, when everybody interested in short wave radio were made welcome.

EASTERN ZONE

The boys tell me there isn't any news this month, but I'm to do my best. 3QZ, who has erected a 6 mx. 4 element beam on his lawn, had a visit from 2TK, who is on a camping holiday. These beams drag 'em in! 5SR, ex-3CI, called on 3DI and 3PR, but unfortunately Ron wasn't home when Sid called.

This crack may have repercussions, but the owner of the poshest glamour wagon in the zone—no names mentioned—is alleged to be looking for a really reliable jalopy, like a T Ford! I recall this person making insulting remarks about the 3AHK Mercury a couple of Conventions ago, so this is poetic justice, or something! 3WE has foresaken the stage coach for the airways, he and the family flew to Melbourne and back at Xmas and Bill didn't need the paper bag either! Yallourn associate, Ken Elliot sat for his A.O.C.P. in January—now awaiting the brown envelope.

The Sale Sub-Branch has a new member—Mrs. 3ABF having presented the OM with a son, both well. The December meeting of the Branch, due to the absence of many members on holidays, or laziness, developed into a general ragchew, enlivened by 3ABP's description of his trip per Lincoln bomber to ZL. Bud's tale of his visit to a type named Reg and the subsequent sampling of the home brew was a gem! We'd like to see a little more interest taken in the club after the holidays, so what about it, you back sliders?

3TH 3RH and 3HK are still mad with the zeal on 6 mx. and now we're waiting for some to break out into the 144 rash—they say it's contagious—but 80 does me! Would like to hear from our Bairnsdale associates, so let's have some news, chaps.

CENTRAL WESTERN ZONE

Radio speaking we have never known the zone to be so quiet, and less newsy, so let us go back to the zone convention last September and recall that offer of the three miniature tubes for a 144 Mc. contact between the zone and Melbourne. The two 6AG5s and the 6AQ6 are here just waiting for someone to claim them, so what about it, you v.h.f. experts, if somebody does not win them soon your scribe might be tempted to put them in a new rx.

Since the enforced holiday of 3ARL, the air around Stawell has returned to its former country purity. Last heard of, Lin was doing nicely thank you and getting out of bed for the first time, by the time these notes reach print, we hope he will be back in Stawell again, and creating his usual electrical disturbances. 3DP suffered minor losses during a recent gale and is not happy about 800 ribbon; has been busy with harvest. Another one missing was 3HL, but as the harvest is now cleaned up, Allan will be on again as usual. 3YW has changed the 5.7 Mc. xtal filter to a 1.6 Mc. band pass filter in the single-sideband tx and finds it much less critical in adjustment, tests with 3DP give no carrier, and one sideband so what more can one want. 3AKP has been on holidays and visited one or two of the Geelong boys; Keith's 14 Mc. beam is still on the ground.

Over the holidays two charming visitors in the shape of Rex and Gwen (2VL and 3US) blew in for an hour or so. 3ATR now has a big set-up; Trev runs 100 watts to an 813 and modulates it with 807s, a very nice signal too Trev., the secret of course is an a.c. generator. 3AKW, another of our very busy members, I believe is to be left in charge of one of our local b.c. stations. The year is well away now, so if you have made a resolution to be in the zone hook-up more frequently, don't forget it is the second Sunday of the month, time 10 a.m., frequency 7155 Kc. approx.

NORTH EASTERN ZONE

Zone hook-up was another absolute washout with 2YV the only Ham outside Shepparton to get here. Even 3UI was way down in the noise. Hear that 3UI now finds his call sign calibrated on the b.c. sets he services. Is this outrageous statement true Alan? Have located another Ham in Shepparton, 3AJO Jack O'Halloran, late of Bendigo, Ballarat and Horsham. Jack hasn't been heard from Shepp. QTH although he has a Type 3 with him. Hope to hear you on zone hook-up at least Jack. Peter Williams, of Wangaratta passed everything except morse at October exam. 3APF has had a sojourn in bed, but glad to report that he is up and about again. Peter has been working ZLs on 6 mx. recently.

Young Mr. Brown, of Yea, has been very silent these days, would appreciate a letter on your doings feller. According to h.c.i. at this QTH, 3AT is taking family and 6 mx. gear on holidays to Adelaide. Nice way to have to gather news. Heard DX stations working 3UI on 80 mx. Visited 3ALE recently and Les has the back verandah fitted up even to a bed; has quite an amount of gear. Was in the process of finishing a 6 mx. beam which is to be erected in near future. Les using a long wire antenna (about 8 ft. long) on 6 and heard ZS using c.w. This claim is generally laughed at by the local inhabitants of the v.h.f. band, but never mind Les, "truth is stranger than fiction!"

3ACK knashing teeth over bad signal reports from 3KR. However as conditions improved so did John's signal reports. 3HZ working ZL on 6 mx., also a bit of 40 mx. work too. 3PZ looking forlorn at having to walk now that he hasn't motor bike. 3AGG still working very hard at new QTH, hopes to get on 6 mx. in very near future. 3AGT having found his QTH again, heard on Sundays recently; rx. racked up so couldn't listen in Stan. 3FD very quiet these days, must be building that modulator eh Andy? Nothing heard of 3ACW either, how about a letter Chas.

QUEENSLAND

Being holiday time, it is only natural that your zone managers and sub-editor should also want a holiday so it will be difficult to find material for the Queensland notes this month—who cares anyhow?

The last monthly meeting saw one of the largest attendances we have had for many moons. No less than 46 members were there to hear what our Senior Radio Inspector had to say about the Advisory Committee. Mr. Conroy told us that the Advisory Committee was an attempt at allowing us to govern ourselves and if any of us should be reminded by the Committee that we are not "playing ball" on the Ham Bands he hoped, as pointed out in the Handbook, that we would take it in the right spirit. He did not want us to look upon it as a "pimping" organisation but rather, as the name implies, an "advisory organisation" set up purely for our common benefit. Mr. Conroy also stated that if the Advisory Committee was unable to efficiently carry out its duties, it would then become necessary for the P.M.G. Dept. to carry out the job which may be to the Amateurs' disadvantage. It was nice to hear the kind remarks made re the W.I.A. by Mr. Conroy at which stage he pointed out that he was aware of the aims of the Institute and its fellowship because he was its Queensland Secretary about twenty years ago.

A committee was then elected to organise the field day which should be a thing of the past by the time you get this mag.—what say you all start preparing for the next field day, now, so that you will be in a position to join in the fun instead of leaving it to the half dozen or so who seem to have the gear. It takes time and money so I am getting in early and making the suggestion—the rest is up to you.

4WF and 4WJ work hand in hand with some of the DX. The other evening I was going down to see the old "Wiley Fox" in Snake Gully when I was nearly knocked over by a car which pulled up in a cloud of dust to disgorge the aforementioned gentleman himself—he didn't walk, but rather ran, helter skelter for his shack. By the time I had picked myself up and arrived, Bill was frantically re-assembling his modulator which was on the bench whilst Jack held on to a FN9. Eventually Bill made the contact, but the F69 must have thought Bill was terribly excited (kid he wasn't) if he judged by the way Bill was puffing and blowing. Let's hope the card comes to light after such a hectic time chaps. By the way, Bill, congrats on the f.b. rack and panel set-up, looks "all sort of commercial like."

4FP has taken a tip from the last "A.R." and now has a transmitter on 6 mx.; looks like the 20 mx. beam is soon to have company John. 4MD and 4FE have been playing around with 288 Mc. and have had numerous contacts over a six-mile range. On numerous occasions they find that one hears the other, but is unable to make himself heard at the other end. It's not receiver troubles either, as they seem to take it in turns for the above to occur.

To 4EM we pay special tribute for doing a splendid job which should more fully impress on the public and powers that be that Ham Radio has its merits in an emergency. As you know, we have had some trying floods recently and Emerald was in the thick of them. During the worst period two boat loads of men were tipped into the flooded river and had to cling to some trees, some for two days and nights. The R.A.A.F. sent three Lincolns up to search for these men and to drop food on various homesteads and at the request of the Police and R.A.A.F., permission was sought and granted for 4EM to operate on Aeradio frequencies to keep in communication with the planes. This saved many hours of flying and enabled the Police to exactly direct the aircraft over houses which required food. What is more important the plane crews were able to give exact directions as to the location of the two men who were originally stranded on an island in mid-stream and for whom the first boat load, which turned over, had been searching. 4EM has received a letter of praise and thanks from the R.A.A.F. for his mighty effort. Nice going and heartiest congratulations OM.

From Townsville we hear that there are three Hams in the one radio station up there. They are 4EL, 4DB and 4AD—what a happy family they must be. 4EL is using a BC348 as the l.f. stage from his converter and, what is more important, he now is able to use phone—nice 100—just as well because Eric was saying he now has the electronic bug working well, so much so that he is going to run me off next time he works me on c.w.—Eric didn't exactly say that, but I think he inferred it. We also believe 4EJ is getting tired of playing ships and is starting to make a comeback in Ham Radio.

CLARE'S CORNER

Holidays seem to be the order of the day this month and quite a few of the locals have pulled the big switch and headed for various holiday resorts, therefore the band has been particularly dead as far as VK4 is concerned. 4KS has combined both with a portable rig in the car and will be able to give a running commentary on the big ones that got away. Also you might try calling CQ to any 20 lb. schnapper Keith. Heard also that 4FN became portable when his car contacted a tram. Frank was QSYed some distance, but fortunately escaped without injury beyond probably a few rapid changes in frequency.

4TT has left his old QTH, packed all his gear and will soon be heading for VK2 land. Two thirty foot poles and about 30 odd feet of 300 ohm ribbon were left behind. Did you say you came from Scotland Tom? 4NF has received permission to use a tape recorder and his efforts have been very much appreciated by quite a number of locals who have had part of their transmissions played back to them. Noel can certainly be congratulated on doing a very fine job in letting us hear ourselves as others hear us. 4PX should be very pleased with the good quality phone reports he is getting; that new mike is certainly the goods Arthur. 4KV is another local Ham who has left Brisbane to take up residence in the South and we will probably be hearing from Jack in the very near future under a VK3 call sign.

Having forgotten to wish you a Merry Xmas in the last issue, I will take this opportunity of wishing you all a very happy, peaceful and prosperous new year and may the DX bounds have bigger and better DX and the rag chewers longer and brighter QSOs.—Clare.

DARLING DOWNS ZONE

Big news of the month has been the 50 Mc. openings which gave the v.h.f. boys a real Xmas present. On 10th December the band really turned it on with S9 signals from VK3, 5 and 7 for over six hours. Opening about 5 p.m. on Sunday, the dial was full of signals until 11 p.m. Since then there have been openings to VK3, 5, 7 and on Sunday morning, 24th Dec., to ZL. As was to be expected, 4XN, 4CU, 4KK and 4TY were right on the job and worked a great number of stations. 4TY is now a very enthusiastic 50 Mc. man! 4KK and 4CU continue to put nice 6 mx. sigs into Toowoomba.

For the benefit of stations who were transmitting during the "big opening" a list of stations heard by 4CG has been forwarded and is published in "Fifty Mc. And Above."

The 14 Mc. band has been in very poor shape over the past month. So much so that 4CG worked 4KS at 10 p.m. with S7 phone—distance 65 miles. This is the first occasion that this has happened in 20 years of operation—so make what you like of it. On 7 Mc. conditions haven't been much better what with broadcast stations and QRN it is almost impossible to use the band after dark. Nobody has ever told me yet who ever listens to this s.w. broadcasting because it certainly isn't entertaining even if you're stuck for something to do; it's probably the world's most expensive farce.

Forty still continues to be the "insanity" band and deserves a lot of attention from the Advisory Committee. It's not the signals but the "dill" stuff that comes out, and the public telephone business that goes on. Zone members are advised to read well the regulations re third party. 4IG is an example of a well-conducted Ham Station—likewise 4JC. 4LB, ex this zone, now with R.A.A.F. in Malaya and hopes to be on soon with VS call. Broke his f.b. rig taking it home by trailer to VK5; bad VK4 roads? Well, folks, here's hoping that by the time we read this screed, things in radio will have picked up a bit. Maybe the Ws will give us something to work shortly. Incidentally, 3.5 Mc. is crammed with Ws around 6 p.m. and VS7 was worked on 7 Mc. Yes, I guess it's not so bad yet.

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SOUTH AUSTRALIA

There was no monthly general meeting for December, but in its place the VK5 Annual Xmas Social was held at the Burnside Council Supper Rooms and a good roll up of members (seventy to be exact, and six guests) thoroughly enjoyed the festive board and the floor show which followed. 5LW compered the show and did a remarkably fine job, in fact it is safe to say that he made the night the undoubted success that it was. The thanks of the Division are tendered to the bevy of beautiful XYLs who came along during the afternoon and very tastefully decorated the tables and gave us all a lesson in laying tables and sweeping floors, etc.

Among the guests were Mr. W. Govenlock and Mr. C. Tyrrell, of the I.R.E., Mr. L. Thompson, of the P.M.G's Department, Mr. F. Carter (ex-5GK), John Clifton (5HI) and last but not least, Mr. "Pop" Sheard who, by the way, is the genial morse code instructor for the Division. The toast of loyalty to the King was in the able hands of our worthy President, 5MD, that of the visitors was proposed by our Past President, 5AW; 5UL very briefly, but decidedly to the point, proposed the toast of the W.I.A., and Mr. L. Thompson in a humourous vein, responded on behalf of the visitors and stressed in all seriousness the amiable relations at present existing in VK5 between the Department and the Amateur. He also made reference to the splendid work that has been done by the Advisory Council, and reminded all members that this body has always been, and always will be, simply a buffer between the Department and the Ham.

5MD responded to the toast of the W.I.A. and reminded the younger chaps present that they should be prepared to serve on the Council and give the grey haired old jokers at the main table a chance to have a rest. This remark apparently tickled the fancy of all present as they seemed to think that it was aimed at the Vice-President, and loud and long was the hilarity, together with many a rude look from 5JK and his cohorts. Personally, I have pointed out in these notes that I am now hardened to the cruel barbs and insults hurled at me from this source, and will simply say that many a fine tune has been played on an old fiddle! Joking aside, the night was a huge success, and whilst there are some who incline to the opinion that it is almost impossible to enjoy oneself at a "dry" Xmas social, then this one definitely gave them the lie.

It is a remarkable thing but it would seem that quite a number of members do not realise that the VK5 Division subsidises the Xmas Social to the extent of 2/6, making the total cost per member 6/-. Two interesting points arise from this statement, one, that all the members who stayed away helped to pay for the other members who attended, and two, if it costs 6/- per head for a "dry" social, what would it cost for a "wet" social, and also, would all the members who do not drink, be prepared to pay the extra money that would be incurred. Incidentally, I feel that the time is ripe for a discussion on this controversial matter, which should be held at a general meeting, and if it is the wish of the majority for a "wet" Xmas Social, then a "wet" social it should be.

Rumour has it that an enthusiastic young member intends to take Doc Barbier at his word and contest the next elections for Council. This is good news and I can assure him that a hearty welcome awaits him if he succeeds. Whilst admitting that the present Council is doing an extra good job, it cannot be denied that new young blood in any organisation is always an asset, aside from the fact that the more new Council members there are, the less work there will be for the old Council members—Ho Hum.

Xmas has come and gone and the average Ham is settling down once again, but it can't be said that the bands are settling down at all, because general reports indicate that contacts with DX stations are very spasmodic. The bands open up for a night or so and then fade out for a week or more. Heard quite a number of VK5 stations calling a VR5 the other night on twenty, and as they were all on top of him I was not surprised to hear him come back and say that he could not tell who was calling him for the din. Out of the six or so stations calling him only one had the savvy to QSY slightly, and it goes without saying that this station clicked the next contact. There's no doubt about it, "an old dog for a hard road," and I am no going to tell you who the shrewd station was, but this I will tell you, he spends a lot of time sneering at me.

Everybody has been very busy down the South East way this month with their sesqui-centenary celebrations, and at the model club exhibition, held as part of the celebrations, 5MS and 5KU displayed their transmitters and are to be congratulated on the smart appearance of their rigs. 5TW has been heard on 40 and also on 10 mx. occasionally, but Tom is like the rest of us, still waiting for the bands to come back to normal. 5CH is managing to be heard on 40, 20 and 2 mx., but Claude is still finding plenty to do at the power station. 5FD is another one who is still very busy and finding no time for activity on the various bands. Personally, I think that John is just being cunning and will dash into it as soon as the bands have anything to offer.

5KB is doing a little on 40 and 20 mx., and I understand that Pete's modified 522 has impressed quite a few. 5CJ has unfortunately been on the air more than he wanted, I say unfortunately, because Col has been spending a good deal of his time at the base station of the Emergency Fire Services and they had a few fires, a few too many, as Col puts it. He had a pleasant surprise recently as he heard his first 6 mx. signals, mainly VK4 and VK2, but as he did not have a transmitter at the time, he had to kick himself around the shack and just listen to S9 signals for over twenty hours or so. 5LW is reported as being seen down at the Mount the other Sunday on a flying visit 'tis said. My correspondent says that it was good to see his cheery grin and of course I presume that he also had a few words to say as well. Ross, being a man of few words, I could be wrong, but I think I will take the risk.

5SL has returned from his honeymoon and is gradually settling down in his new QTH. Even on his honeymoon he could not get away from

radio, as the local p.a. system where he was stopping broke down and Laurie was commandeered to repair it. Fortunately for him he was able to fix the crystal detector or something and all was well. Whilst passing through Mt. Gambier he picked out a couple of likely looking aerial poles, but the bus driver put on such a song and dance when Laurie suggested tying them on the bus, that the idea was abandoned for lack of support. (Get it, lack of support; oh, they are coming thick and fast now.) Anyway, the ham gear is slowly materialising from among the wedding gifts,, etc., and Patricia is just starting to realise what sort of a rival she will have to contend with for the rest of her life. I hate to keep alluding to it, but as yet nary a trace of wedding cake have I seen.

5HD and Charlie Remer have been spending a few days with 5BC at the second best broadcasting station in VK5 (5RM), and poor Mrs. Lloyd went into temporary retirement because the one subject of conversation went on day by day, and she felt that if she heard the word radio any more, she might go nuts. Bill took up his crystal controlled converter with the result that Hughie has been seen at the emery wheel with a handful of crystals. 5XA was another visitor to Berri this month and Laurie tells me that he and Howard had quite a few minutes chat on a variety of subjects (all radio) although up till then, Howard had not paid any visits to any of the other boys. 5KW has been playing around with 6 mx. gear and after his experience with the high tension the other night, he will be making quite sure that the switch is open before he delves into the mysteries of his transmitter; teh, teh, Harry.

5MA is another 6 mx. exponent, but he gets very sour when he can hear 5BC working the ZLs, but he can't find any on his receiver. Don't let him bluff you Fred, he used to be able to hear, and work, a lot of stations on 20 mx. that I could never find on my dial, when he was down in the city. I think that he has a couple of stages of audio parked behind his inner ear. Murray Nicholson did not quite make the grade at the last examination, and it goes without saying that the hurdle which brought him down was the code. Never mind Murray, better luck next time, if it is any help, I can tell you that after my 151st attempt at the code they gave me my ticket in sheer self preservation.

I am not going to mention any names, but a young XYL has accepted my invitation to write in and give me one or two details of something that annoys them about the OM. Now the bone of contention in this case is wood, yes just plain wood, and whilst most Hams associate wood with beams, poles, etc., most XYLs associate wood with cooking, and if there is no wood cut in the morning then there will be no food cooked in the evening. Need I say more? After all, a single Ham's idea of a hot meal may be frits and mustard, but an XYL soon changes that. Personally, I always go out the front door to work so as not to see my wife chopping the wood. Go to it Skinny.

Authority has at long last been granted for the purchase of a modulated oscillator for the use of members, and the instrument should soon be available for use. I have had my application in for its use since last September and rather suspect that if this fact had not been known to the members of the Council, permission would have come along a lot earlier.

By the time that these notes are being read I will probably be in my new QTH, with cheers and hoorays coming from all the boys at Henley Beach, and jeers and catcalls from Rose Park. Just to be on the safe side, I would like to say that I have come at all the dodges to stop new QRM myself, and should I wake up one morning and find my poles down or the aerial wire missing, I will know just who to blame and the necessary action to take. 5JK and 5AW please note.

Very little news to report from the city boys this month, due probably to the festive season and also to the number who are on annual leave. The usual regulars have been heard working the usual regulars, but the bands have offered no inducement whatsoever.

Council this month chose the delegate and observer for the 1951 Easter Convention, and the honour goes to Gordon Bowen (5XU) as delegate and Federal Councillor, and John Rulling (5KX) as the observer. The only fault that I can find with this choice is that with John away over Easter, I will be liable for a little baby minding, to say nothing about some car cleaning.

I heard on 20 mx. a well known VK5 holding forth as to how he had cured all of his b.c.i. trouble with a new system of aerial coupling, and loud and long was his praise of himself upon his ingenuity. The whole effect was spoilt however, when his harmonic came into the shack and quite audibly said, "It's coming in on the other set now Dad, twice as loud." The forced laugh that came out of the said Ham's microphone as he heard this, would have done justice to Dracula or Frankenstein.

A certain VK5 who is playing back recordings on the air occasionally, apparently is not aware that permission has to be obtained for this purpose, and this paragraph is not intended as a complaint, but as a friendly tip-off.

The audio side of 5HI must be working first rate, because he was sitting almost behind me at the Xmas Social and long before I saw him, I recognised his voice. He seemed to be enjoying himself and there was a constant stream of visitors to his wheelchair throughout the evening.

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TASMANIA

Activity during December and early January was notably quiet in comparison with other months. This is possibly due to the excellent weather and holidays causing several absentees in the ranks. Members visiting the mainland are 7BQ, 7SK, 7DA and 7BH. Max and Len intend travelling as far north as Queensland. Brian's activity is centred around Sydney.

Gratified to see general increase in the number of members present at our last two meetings, so things are definitely on the up and up. A lecture on the Borneo Campaign was presented by 7JB which created considerable interest in the manner in which radio played a leading part in this now major operation. Number of Class "C" Wavemeters were available for distribution and our thanks go to 7PA for his effort, which enabled these units to be purchased. News at last has been received of our success in the 1950 Remembrance Day Trophy and congratulations must be extended to all participants for their splendid effort.

Several Hams are scheduled for a change of QTH early this year, amongst those are 7RM, 7SK, and 7BH. Rope seems happy with new location which will predominate the New Town area. The shack will consist of one of the main rooms of the house, quite a comparison to conditions which prevailed at the old location. 7SK on return from holidays, will move to Mt. Nelson. Happened to notice 7GJ in town, unfortunately (or fortunately) Jack's hobby has now turned to motor cars, but the bug will bite again shortly it is hoped.

Recently returned from a ten-day sojourn at Halcombe Sig. School is 7DA. Worked portable during that period with approximately 60 contacts. A stranger to many who has just arrived from service in the tropics is our old friend 9YY, wearing a tropic tan and looking fit, after an absence of roughly three years. Welcome Bill and trust you will remain with us in future. Considerable alterations are planned at 7KX together with a new band-switched transmitter for working down to ten, so it seems Don we can expect to hear you working DX in the near future. No news from 7KA of late. 7AF re-organising the 10 and 20 mx. beam with main alteration to the feed system. 7LJ heard on phone on twenty with f.b. modulation.

At the December meeting, 7AL was voted catering officer for the forthcoming annual dinner, with assistance of 7AF and 7SK. This function, it is hoped, will be a great success, so it would be appreciated if all members could make a point of keeping this evening free. From the North West Coast news is to hand of a new arrival to the 7AB household. Congrats Doug to you and the XYL not forgetting 7KB for his part in this happy event.

For those interested in 2 mx. 7MY is at present conducting tests with automatic transmissions. Hours of operation are announced on the 7WI broadcast each Sunday. Intention of becoming again active has been voiced by 7DW. Doug has not been heard for several years, so it's about time you brushed those cobwebs away and let's hear a signal from you.

A number of members have mentioned their intentions of forming teams to participate in the National Field Day Contest, which will have been conducted by the time these notes appear: 7LD, 7KX, 7RX and 7SD have formed one team, while another will consist of the following: 7JB, 7AL, 7DA and 7SJ. It is pleasing to note that this year greater interest is shown in the contest, which is an effective way of trying out portable gear, that may be required for some sudden emergency. It is hoped in the next notes, a description of gear used will be available for inclusion in "A.R."

NORTHERN ZONE

Although this makes the second issue for 1951, the meeting to be reported is the last for 1950. This departed from the usual proceedings and took the form of a social gathering, a dinner, at the Brisbane Hotel, Launceston. Almost all members of the zone were present and the accent being on informality, a most enjoyable evening was spent by all. From the commencing time of 6.30 p.m. until that sombre phrase "time gentlemen please" was sounded at 10 p.m., eating, drinking and nattering in various orders according to individual taste were indulged in and I for one look back on it as being an occasion right on top of its class. The Remembrance Day Trophy was on display and caused considerable interest.

Doings of the months have been mostly vacational our member to go farthest afield being 7BQ who took himself off to VK4 for a fortnight. During his absence a number of 6 mx. breaks have occurred and 7LZ has had the field much to himself here, his log on 6 mx. closely resembles a contest log on the lower frequencies and some very good work has been done. 7HY went all nautical for the holidays and spent the time cruising down the river; have not heard any signals signing portable 7BY so can only conclude that the fish were biting. 7RB and 7XW each in one of those jobs that take no thought of holidays so can only conclude that they both are carrying on as usual. Here my holidays are fast concluding, tomorrow sees the grind for daily bread on once more, but the radio side of things has received very scant attention; have kept a check on the daylight hours on ten, but might just as well have saved the light bill.

Have one or two prospective Hams in the zone and I for one will welcome them with open arms as maybe they will do something that I can write about. Everybody seems very sober and respectable these days, haven't had a juicy piece of scandal for many moons. So, the date in February is the 9th. See you then.

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CORRESPONDENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

CHASING THAT DX

22 Pine St., Randwick.

Editor "A.R.." Dear Sir,

A deplorable practice is lately becoming increasingly evident on the air, one which if allowed to continue, can only result in lessening the enjoyment each of us gets from DX contacts. I refer to the practice of calling stations, particularly phone DX, on the same frequency. This is surely an indication of pure selfishness, a quality which is supposed not to exist in our ranks.

Surely it is just as effective to call a station at least 20 Kc. off his frequency and so give the fellow who does contact a chance to copy. After all, the DX station has a receiver which can be tuned across the band and after calling CQ would hardly be likely to listen only on his own frequency. So why not call the station off frequency and then QSY. This way each station has a chance.

—G. PATERSON, VK2AHJ.

HAMADS

9d. per line, minimum 2/-.

Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line.

Dealers' Advertisements not accepted in this column.

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FOR SALE.—AR8 re-built as Communication Rx. Provision for S meter. AC power supply, band spread, speaker, good cabinet, etc., In A1 condition. £17/10/-. L. W. Johnson, 17 Grovedale Road, Surrey Hills, Vic. (WF 2754).

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WANTED.—Coil Boxes AR7, any band; also Coil Acceptor Unit. E. M. Waddle, Dean St., Charters Towers, Qld.

WANT.—3BZ Transmitter, any cond. R. Black, George St., Liverpool, N.S.W.